The OIL WEEKLY

10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

December 21, 1928 — Mar. 15, 1929 **Volume 52. No. 1**

Permanent

EVERY "IDECO" Structural Steel Derrick you see is a monument to somebody's foresight. Year in and year out they stand, silently proclaiming their superiority over tottering wooden derricks or steel lacking in Ideco's protective galvanizing. They defy wind and weather, rust and rot, fire and insects. Nothing takes the place of steel—"IDECO" Galvanized Steel—as a permanent yet portable installation.

"IDECO" derricks are designed and built of beams, channels and angles in such a manner as to give greater strength for a given weight than any other form of steel construction. Fabricated entirely in our own plant. By the International method of galvanizing after fabrication, every exposed part is given an extra heavy rust-preventing zinc coating.

Send for further details to any one of our branch offices listed below.

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

THE INTERNATIONAL DERRICK & EQUIPMENT CO.

Dallas, Houston, Mexia, Wichita Falls, Odessa, Pyote, Borger, Corsicana, Pampa, Panhandle, Shreveport, Oil City, Smackover, Allen, Sasakwa, Eldorado, Tulsa, Tonkawa, Drumright, Okemah, Seminole, Torrance, Los Angeles, Taft, Charleston, Detroit

The largest company devoted exclusively to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries.

COLUMBUS, OHIO TORRANCE, CAL.

California Representative: National Supply Co. *of* California.

Export Representation: 74 Trinity Place, New York City; Columbus, Ohio; Los Angeles and San Francisco, Cal.

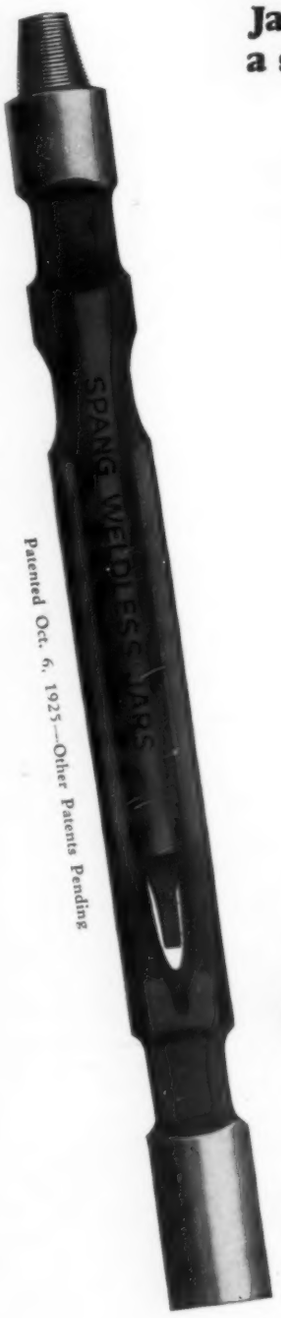
515

TN860
.05

DON'T BE A WILDCATTER WHEN IT COMES TO BUYING DRILLING JARS

Every operator must take many chances on fishing jobs but why increase this hazard with anything less than a Spang Weldless Drilling Jar—The only jar that's forged from a single piece of Alloy Steel.

This exclusive Spang feature practically elimates jar trouble and the consequent expensive fishing jobs.

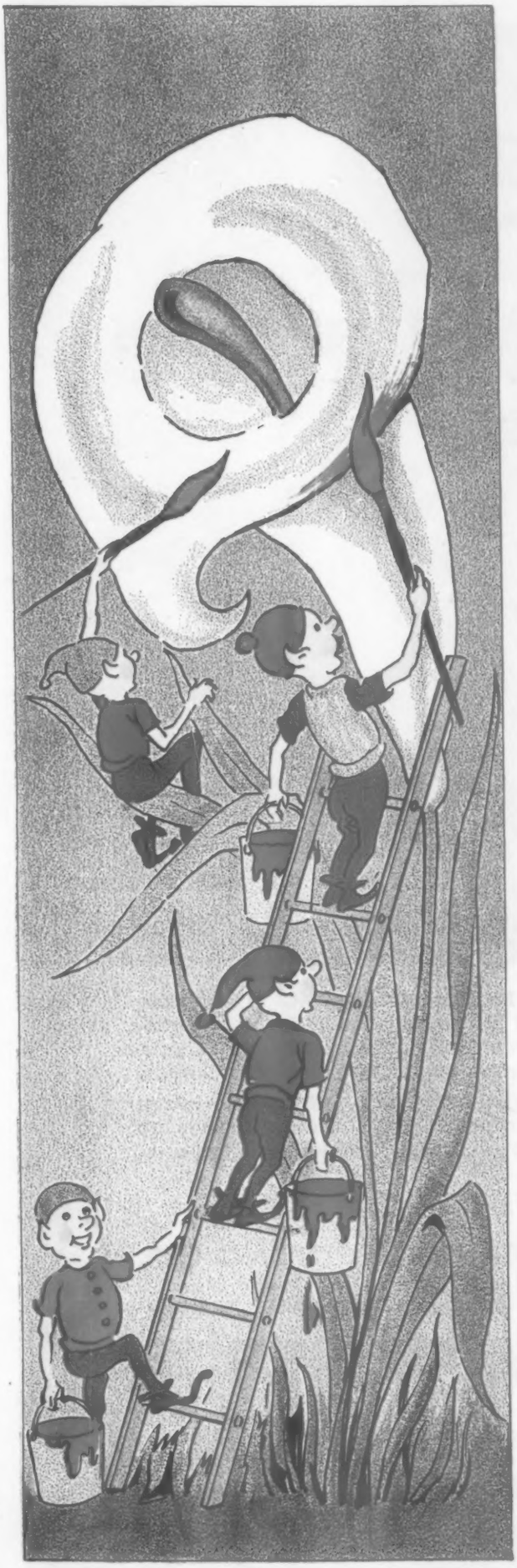


SPANG AND COMPANY

BUTLER **PENNA.**

SOLD BY ALL LEADING SUPPLY HOUSES

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription [illegible] $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under [illegible] of March 3, 1897.



You Can't Improve a Lily by Painting It

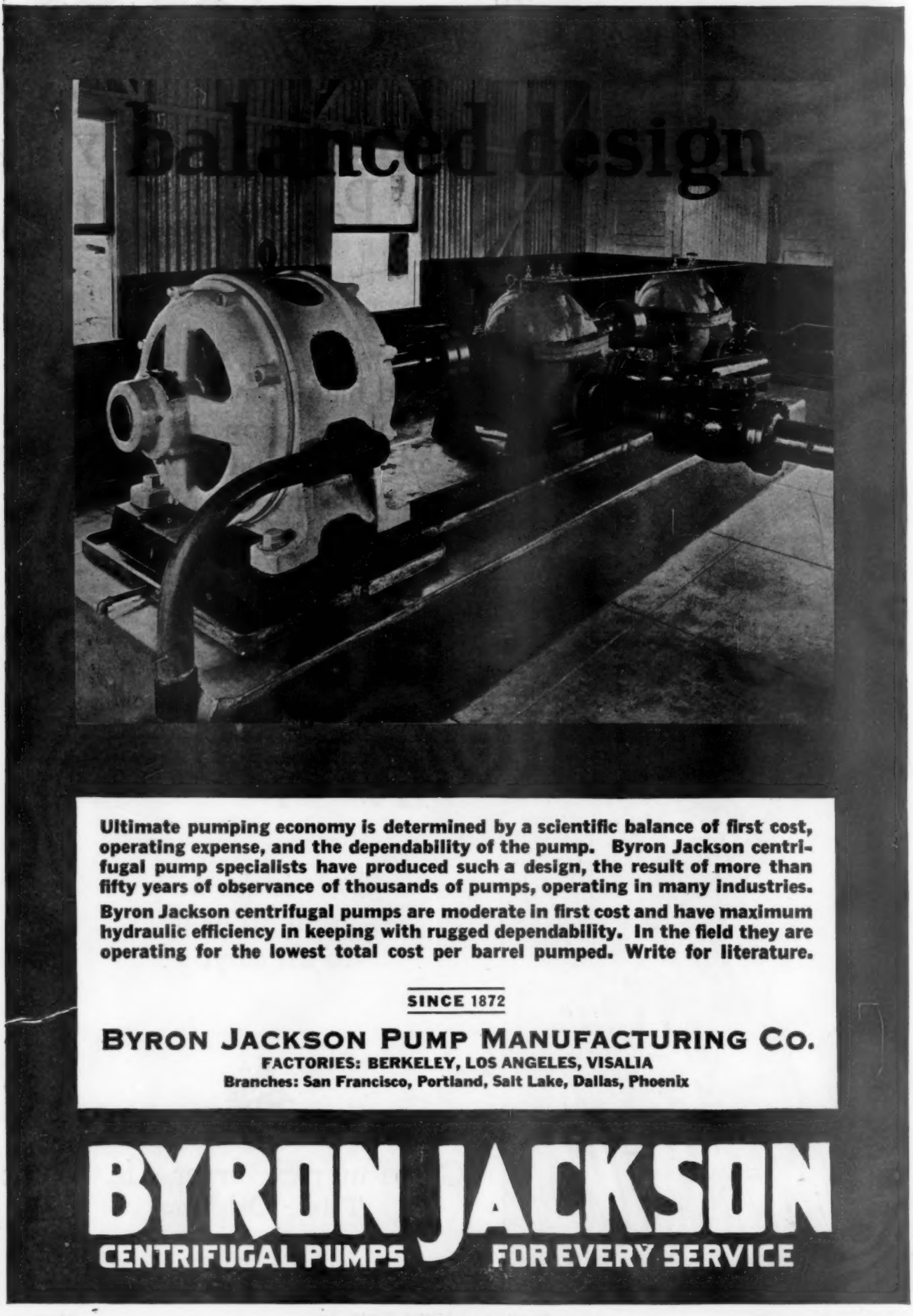
Nor can you, with fancy and high-sounding words, improve upon the good, old-fashioned sentiment expressed in the phrase···

A Merry Christmas Season and a Happy, Prosperous New Year

This is the wish from all of us to all of you!

Gaso Pump & Burner Mfg. Co.
Tulsa · Oklahoma

ADVERTISING INDEX .....PAGE 21 NEWS INDEX .....PAGE 23



Ultimate pumping economy is determined by a scientific balance of first cost, operating expense, and the dependability of the pump. Byron Jackson centrifugal pump specialists have produced such a design, the result of more than fifty years of observance of thousands of pumps, operating in many industries.

Byron Jackson centrifugal pumps are moderate in first cost and have maximum hydraulic efficiency in keeping with rugged dependability. In the field they are operating for the lowest total cost per barrel pumped. Write for literature.

SINCE 1872

BYRON JACKSON PUMP MANUFACTURING CO.

FACTORIES: BERKELEY, LOS ANGELES, VISALIA

Branches: San Francisco, Portland, Salt Lake, Dallas, Phoenix

BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE

Say you saw it in The OIL WEEKLY

This year the Halliburton Company will use this means of expressing its Holiday Greetings to its friends and patrons rather than the expensive methods used in previous years, and the money thus saved will be used to bring Christmas cheer to homes to whom fortune has not been so kind as to cause their names to be in the files of the Halliburton Company.

HALLIBURTON

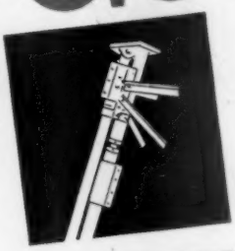
OIL WELL CEMENTING CO.

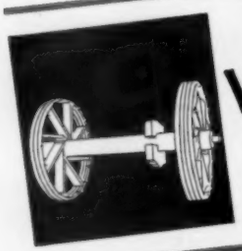
Duncan, Oklahoma

Look to Moore

DERRICKS
The Moore Champion

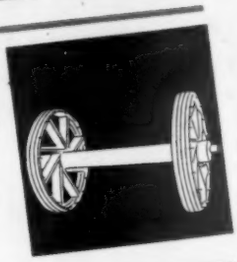
RELEGS
With the Moore Screwjack (patented)

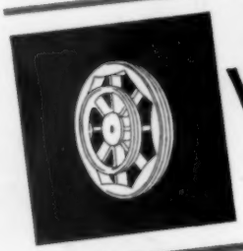




BULL WHEELS
(STEEL)
Heavy Duty

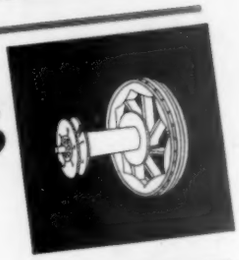
LIGHT
BULL WHEELS
(STEEL)
for Pumping Service

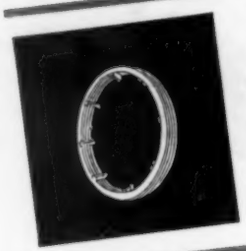




BAND WHEELS
(STEEL)

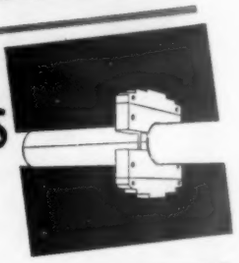
CALF WHEELS
(STEEL)

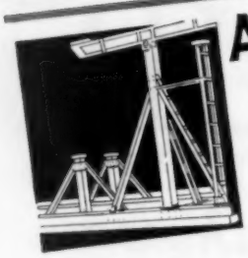




TUG RIMS
STEEL RIMS
for
Wooden Wheels

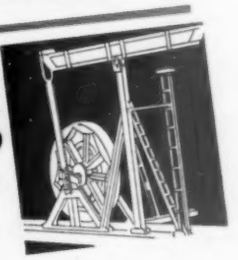
SHAFT PROTECTORS
for
Bull Wheels





ALL-STEEL
MACHINERY SUPPORTS
(Type 5)

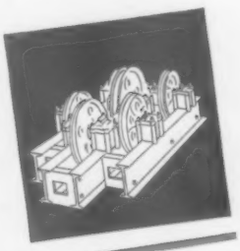
MACHINERY SUPPORTS
Concrete Setting
(Type 7)



for these PRODUCTS

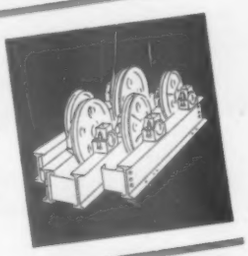
ROLLER BEARING CROWN BLOCKS

CHAIN OILED CROWN BLOCKS



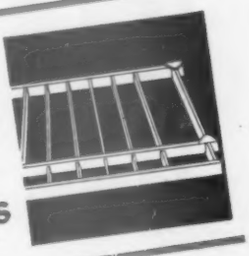
WALKING BEAMS (STEEL)

CROWN BLOCKS PLAIN TYPE



STEEL PITMANS

STEEL BASES and Extensions



Steel Dog House Extensions, Forge Shop Extensions, Pump House Extensions
Steel Bull Wheel and Calf Wheel Posts, with Moore Self-aligning Bearings
Steel Crown, Fourble, Treble, Double and Ladder Landing Platforms
Steel Engine Houses for Rotary Drives: Steam and Electric
Steel Engine Blocks, for single and twin cylinder engines
Steel Belt and Engine Houses for Cable Tools
Steel Adjustable Draw Works Headers

LEE C. MOORE & CO., *Inc.* PITTSBURGH · TULSA

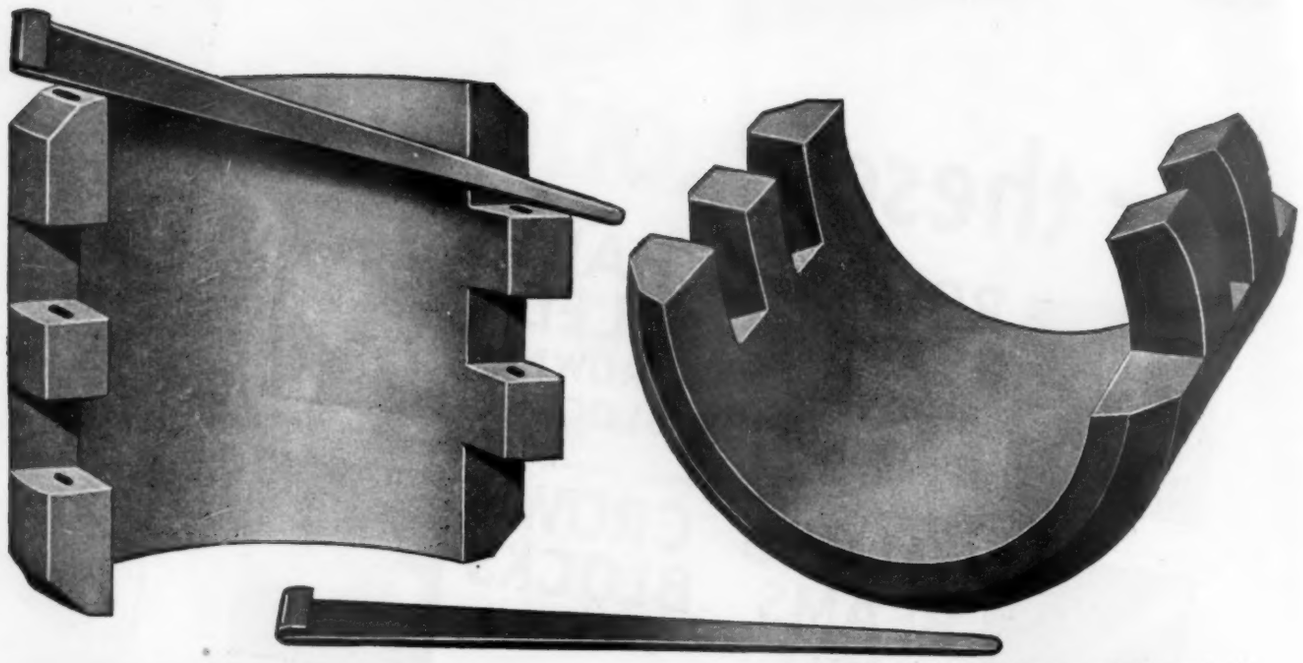
Established 1907
NEW YORK OFFICES: OILFIELD EQUIPMENT COMPANY
30 CHURCH ST., NEW YORK, N. Y.
Stocks in All Principal Fields

DALLAS, TEXAS
HOUSTON, TEXAS
WICHITA, KANSAS

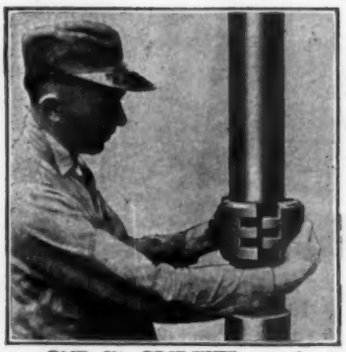
PARKERSBURG, W. VA.
CASPER, WYO.
SHREVEPORT, LA.

Moore

STEEL DERRICKS
ALL STEEL RIG EQUIPMENT



Reinforced with steel like a skyscraper. Positive mechanical grip. The GRIP-TITE Guard stays where you put it. *The tapered pins do the trick.* Simple and fool-proof.



ONE: Slip GRIP-TITE around pipe

TWO: Insert end of tapered pin

THREE: Drive pin home—elapsed time, ten seconds

Here it is . . . the *New* GRIP-TITE Casing Guard!

ALL rotary drilling operators will be interested in this improved rubber casing guard, manufactured by Goodrich. The GRIP-TITE is made in two pieces and can be applied instantaneously by anyone without special skill. Nothing is required but a hammer.

When attached, no blow or pull can move it in any direction. It can be removed as easily as it is applied and transferred to any desired position. It is simple and fool-proof. It cannot be put on wrong, and affords all the advantages of a resilient rubber cushion between the drilling pipe and casing.

Eliminates excessive friction. Prevents water leaks due to casing wear. Protects drill pipe from twist-off due to shock and crystallization. Saves 25% to 33⅓% in power. Permits increased drilling speed. Permits deeper drilling with each size of hole.

THE B. F. GOODRICH RUBBER COMPANY
Factories: Akron, Ohio, and Los Angeles, Calif.

Branches—1386 East 7th St., Los Angeles, Calif. 650 Second St., San Francisco, Calif. 2625 Walnut St., Denver, Colo. 1201 Young St., Dallas, Texas. 2422 Broadway, Kansas City, Mo. 285 S. Peters St., New Orleans, La. Other principal cities. Distributors in all fields.

Also manufacturers of "1788 Highflex" Transmission Belting, High-Pressure Rotary Drilling Hose, Silvertown Heavy Duty Pneumatic Tires, Solid Tires, Hi-Press Boots and other products for the Oil Industry.

Goodrich

RUBBER PRODUCTS FOR THE OIL INDUSTRY

Let's help your crews

First in
Safety
Speed
Strength
Convenience

Your Crews can and *do* work faster with Wilson Tongs. They can slip the Tong around pipe, tubing or casing without adjustment. The jaws swing to closed position almost automatically and lock tightly and will not release until the Operator desires. The 2-step spring-latch locks automatically around either the tool joint or pipe (if pipe is tonged) and around casing or coupling (if casing is tonged) without adjustment.

Then consider the interchangeability of Wilson Tongs. The Levers, Hangers, Latches, Pins, Springs and Dies are all interchangeable in various sizes, with the exception of the Extra Heavy Tongs—an exclusive feature not found in other Tongs.

The Rollover Lever permits reversal of the Tongs within 10 seconds—another exclusive feature.

Wilson Rotary Tongs are drop-forged in several sizes and the 6" size is preferred almost exclusively in the Mid-Continent fields where lightness and great strength of metal are required. We also manufacture a new 6" Extra Heavy Tong for unusually severe service.

Give your Crews a helping hand by furnishing Wilson Tongs—and save the difference.

Succeeding WILSON & WILLARD MFG. CO.

WILSON OIL TOOLS CORP.
OIL TOOLS DIVISION
of
Byron Jackson Pump Co.
2501 E. Vernon Avenue, Los Angeles, California

Products—Elevators · Tongs · Undereamers · Circulating Heads · Rotary Drive Bushings · Pistons and Valves for Slush Pumps · Slotted Screen Pipe

Factory Representatives:
Tulsa, Oklahoma
409 Atlas Life Bldg.
Houston, Texas
2201 Breckenridge Street
Big Spring, Texas
116 B-E 2nd Street
Fort Worth, Texas
814 Dan Waggoner Bldg.

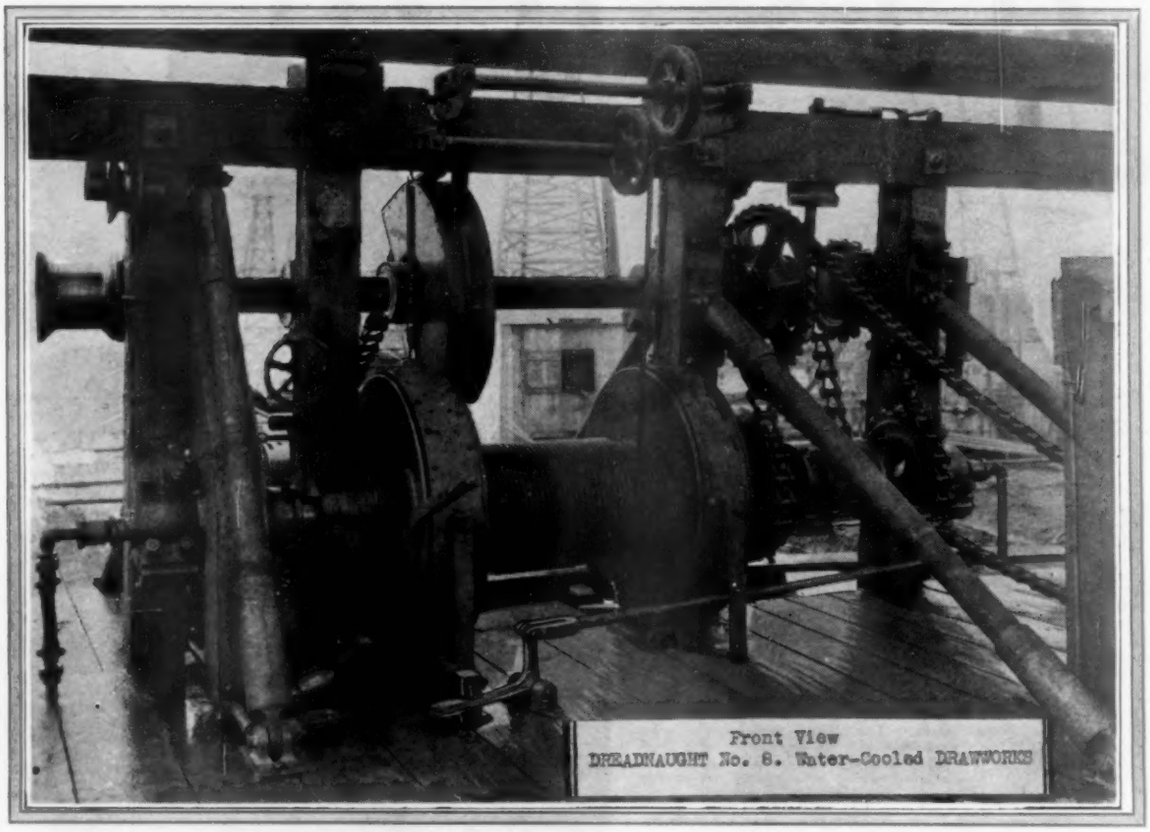
Wilson 2-Step Spring-Latch Casing Tong—with Rollover Lever.

Wilson 2-Step Spring-Latch Rotary Drop-Forged Tong with Rollover Lever.

if it's a Wilson—*It'll do the work better!*

Say you saw it in The OIL WEEKLY

DREADNAUGHT



Four Posts -:- Three Speed
Two Water Cooled Brakes

WHY THE FOUR POSTS?

1st. It increases the strength of the Drum Shaft by supporting it at the Drum on the slow side where all the bends occur in the three post type.

2nd. The fourth post at the same time supports the Line Shaft, adding strength and rigidity to the Draw Works in operation.

3rd. The fourth post prevents the necessity of increasing the shaft diameters and the corresponding increase in weights of other parts which had proven amply strong; producing maximum strength with minimum weight.

4th.. The fourth post does not interfere with the operator. All clutches, including Rotary are foot operated and conveniently located to the driller while standing at the brake lever.

5th. Since the introduction of the fourth post there has never been a case of misalignment or crooked shaft reported; yet, the deepest rotary wells have been and are now being made with No. 8 four post Draw Works.

6th. Heat treated Special Alloy Shafting.

7th. A. P. I. Shafts and Key Ways.

BEAUMONT IRON WORKS CO.

Manufacturers of Dreadnaught Oil Field Equipment

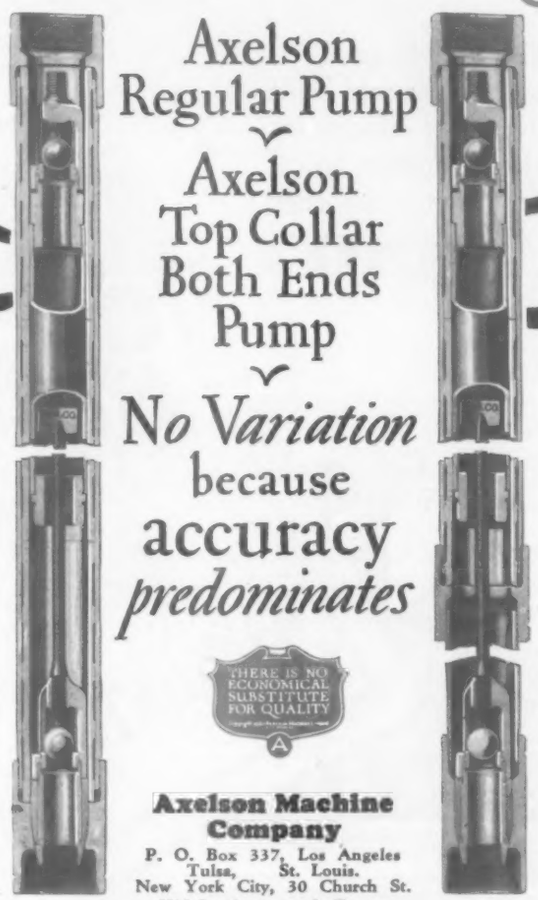
BEAUMONT, TEXAS

Identical in Quality

Axelson
Regular Pump

Axelson
Top Collar
Both Ends
Pump

No Variation
because
accuracy
predominates



THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Axelson Regular Pump

Axelson Machine Company
P. O. Box 337, Los Angeles
Tulsa, St. Louis.
New York City, 30 Church St.
Mid-Continent and Eastern Distributors
Frick-Reid Supply Corporation.

Axleson Top Collar Both Ends Pump

Axelson

INTERCHANGEABLE *Liner* PUMPS

Say you saw it in The OIL WEEKLY

Before You Buy a Truck—Know It

Unit by unit performance—that's how a truck delivers results.

Unit by unit inspection—that's how to examine a truck before you buy, since you're buying *results*.

Oil field transportation—more strenuous and exacting than ordinary transportation—is too big a job for an ordinary truck.

The Wichita "Oil Field Special" is every inch a truck designed and built to meet the hard working conditions of roads and weather common to oil field jobs. Before buying another heavy duty truck it will pay you to find out about the Wichita.

UNIT BY UNIT
Send for this new illustrated catalogue. A special feature is shown and described on every page.

***The WICHITA* Oil Field Special**

Made in the oil fields for oil field transportation. Eighteen years of specialized engineering behind each truck, making it the acme of perfection for oil field work. Known the world over.

THE WICHITA FALLS MOTOR COMPANY

J. A. KEMP, *President*, Wichita Falls, Texas

Say you saw it in The OIL WEEKLY

"FOR EVERY JOINT ON THE LINE"

20" steel sewer, Glen Road Bridge, Toronto, using Victaulic Couplings.

Oil line connected with Victualic Couplings.

12" steel water main, Glen Road Bridge, also connected with Victaulic Couplings.

VICTAULIC COUPLINGS

Permanent leak-tightness under conditions of low and high pressure, immunity to joint damage by vibration and freedom from distortion due to contraction and expansion of the pipe lengths are some of the reasons why Victaulic Couplings were selected for the sewer and water lines suspended under the new Glen Road Bridge at Toronto. They have won for Victaulic Couplings wide use by leading oil production and mining companies.

Victaulic Couplings assure leak-proof joints for the life of the pipe. They can be installed by primitive, unskilled labor at low cost, and faster than any other type of joint. Each Victaulic Coupling gives a flexible joint which takes care of contraction and expansion in the pipe lengths it connects.

Victaulic Couplings are supplied for all sizes of steel, wrought iron and cast iron pipe for all sizes from ¾-inch up —for all pressures from vacuum to ten tons pressure per square inch. Victaulic Fittings make it easy to tie in to any existing lines.

VICTAULIC DISTRIBUTORS:

Western
SMITH SEPARATOR COMPANY
Tulsa, Oklahoma

Pa., Md. and W. Va.
JOINER IRON WORKS
Clarksburg, W. Va.

Canadian
D. B. McWILLIAMS
Toronto, Canada

New England
EASTERN SERVICE COMPANY
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Illinois, Indiana
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Chicago, Ill.

Minnesota, Wisconsin
F. S. VAN BERGEN
Minneapolis, Minn.

Ohio
CASE HARDENING SERVICE COMPANY
Cleveland, Ohio

VICTAULIC COMPANY OF AMERICA
26 Broadway, New York

The all-purpose coupling

"For every joint on the line"

FLEXIBLE LEAK-PROOF

VICTAULIC

PIPE COUPLINGS

For list of uses and users and detailed information on Victaulic Couplings, fill in and mail coupon

VICTAULIC COMPANY OF AMERICA
26 Broadway New York

Please send Victaulic Bulletin No. 8.

Name .....

Address .....

FOR CRUDE OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.

Say you saw it in The OIL WEEKLY

A Thought on CHRISTMAS

WHEN YOUR "TOWER" IS OVER

WHETHER in the temporary shacks of a new oil field or in the gorgeous living room of a palace that oil money built . . . . there is a holy hush in the atmosphere. It is Christmas Tide.

In the geological yesterday when in America the Equatorial waters mingled with those of the Arctic and rivers flowed down to this sea depositing layer upon layer of microscopic plants and animals . . . . there was a hint of the Today when drills are piercing the floors of these receded seas in the Gulf Coast and Mid-Continent America . . . drills reaching for oil that the laboratory of nature in a millennium of time has made from these deep buried microscopic organisms.

The thought of divine purpose is awesome. We seem to be in closer communion with it at this time of year. Whether we are close to the terrifying roar following the tapping by the big drill of age-long stored up forces, or whether we are resting in quiet meditation after our "tower" is over . . . our thoughts are uplifted at Christmas Tide.

MAY you men in field and office enjoy good health on Christmas Day and may its joy and happiness be spread over all the New Year.

NORVELL WILDER HARDWARE CO. QUALITY AND SERVICE

NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

Completing our 76th and entering our 77th year of Service

We take this Opportunity to wish you and yours a Merry Christmas Season and 77 years of Peace, Happiness and Prosperity!

Jarecki

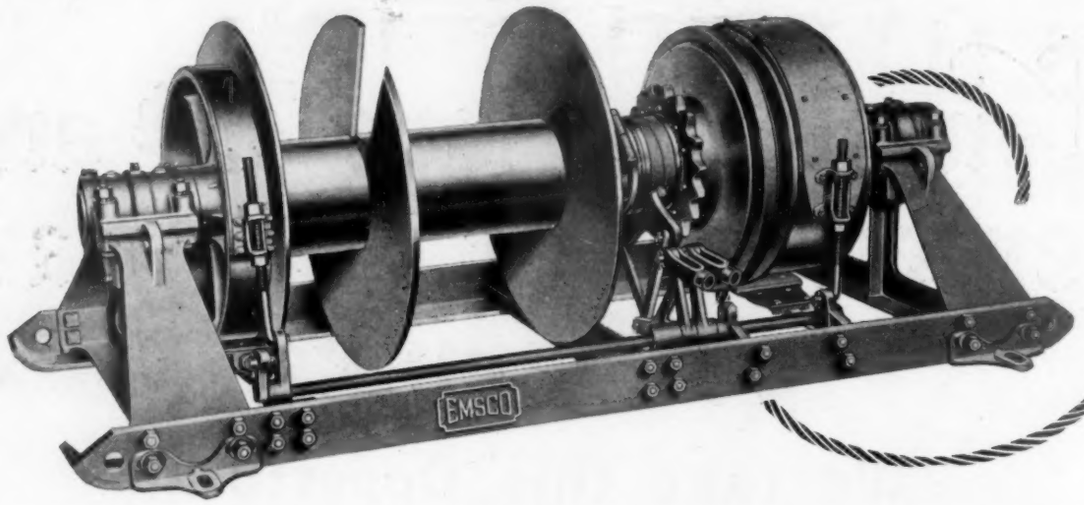
MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.
General Office, St. Louis, Mo.

Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

Real facts



EMSCO TYPE "EC" CHAIN DRIVEN SAND REEL

(PORTABLE)

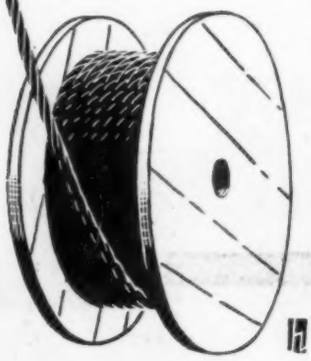
EMSCO
A Complete Line of Better Oil Well Equipment

1. Simple and durable construction
2. Can be moved from one location to another, as a unit, with wire line spooled on the reel
3. Saves time in rigging up
4. Saves fuel and power
5. Saves wear and tear on machinery
6. Reduces maintenance costs
7. Renewable self-oiling bearings
8. Safe .... emergency brake controlled from derrick floor
9. Small number of working parts
10. Clutch is powerful, yet flexible enough to prevent snapping of lines
11. Can be placed in any desired position, and can be used on right or left hand rigs
12. Saves energy of workmen

D+B
A Complete Line of Better Pumping Equipment

Write for bulletin No. 17 covering the complete line of Emsco Sand Reels

(Prices quoted upon request.)



Preferred by Steel

EMSCO DERRICK & EQUIPMENT COMPANY
LOS ANGELES, CALIF., HOUSTON, TEXAS-DALLAS, TEXAS
U. S. A.
EXPORT OFFICE: 150 BROADWAY
NEW YORK CITY, N. Y.
U. S. A.

EMSCO STEEL EQUIPPED WELLS ARE SAFE

Insure Against Pulling Jobs—Use *Puddled* Wrought Iron

One word sums up the advantages of Reading Puddled Wrought Iron Tubing. That word is *Certainty.*

Certainty that Reading Tubing will resist rod wear. Certainty that it makes joints that remain tight indefinitely. Certainty that it will present a lasting barrier to the forces of corrosion and vibration.

It's the puddling process that puts this certainty into all Reading Pipe. For the fiery hot pure iron is *kneaded* in the furnace. Thus Reading is sure that its product is time-tested puddled wrought iron.

To cut down your pulling jobs to the minimum, insist on Puddled Wrought Iron Tubing—and look for the Reading name and spiral knurl mark on every piece.

READING PIPE

GENUINE PUDDLED WROUGHT IRON

READING IRON COMPANY, Reading, Pennsylvania

Atlanta	Boston	Chicago	Detroit	Los Angeles	Pittsburgh	St. Louis	San Francisco	Seattle
Baltimore	Buffalo	Cincinnati	Houston	New York	Cleveland	Tulsa	Fort Worth	Philadelphi

Say you saw it in The OIL WEEKLY

SECO *Valve*

This taper seated valve has been thoroughly tested and adopted by all pump manufacturers in later designed pumps.

Give your old pumps the same advantage as new ones. This new type Valve is manufactured for 6¾" Old Style pumps.

Made of DROP FORGED STEEL throughout with 1" Balata Insert.

Sold to you at cost no greater than for the old style, flat-seated, cast iron type.

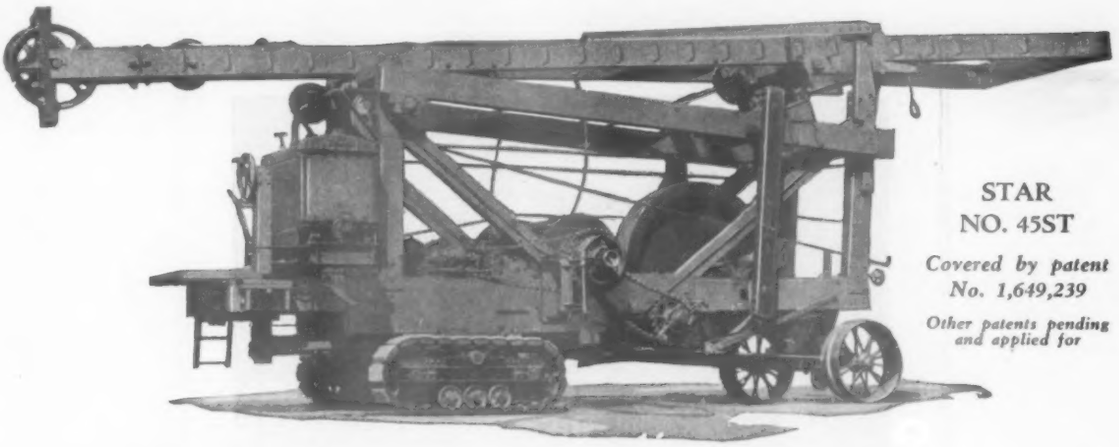
Ask for the Seco Valve at your Supply Store or write us for complete information.

MISSION

Sales Company, Inc.,

Esperson Bldg.

HOUSTON



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Oil Weekly, Dec. 21-28

The Continental Supply Company

Say you saw it in The OIL WEEKLY

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Seasons Greetings

Just an old-fashioned greeting without frills -- Brings the warmest ... glow, and gives us the most thrills. So we say "Merry Christmas" and "Happy New Year" -- in the good old-fashioned way -- and may the Spirit of Christmastide -- live forever ... that prevails among us today ....

from the

SMITH SEPARATOR *Family*

Say you saw it in The OIL WEEKLY

DEC 26 1928

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The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, *Editor*

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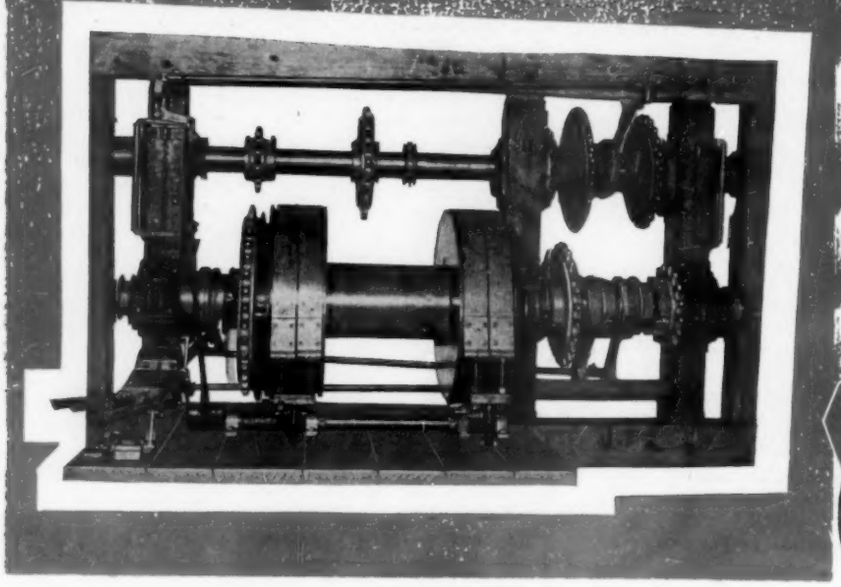
The FASTEST HOIST IN THE FIELD!



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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Say you saw it in The OIL WEEKLY

Eastern Boost of No Significance To General Market

Rising production elsewhere, particularly in California, a dangerous influence to enter crude market; refiners reducing runs to stills

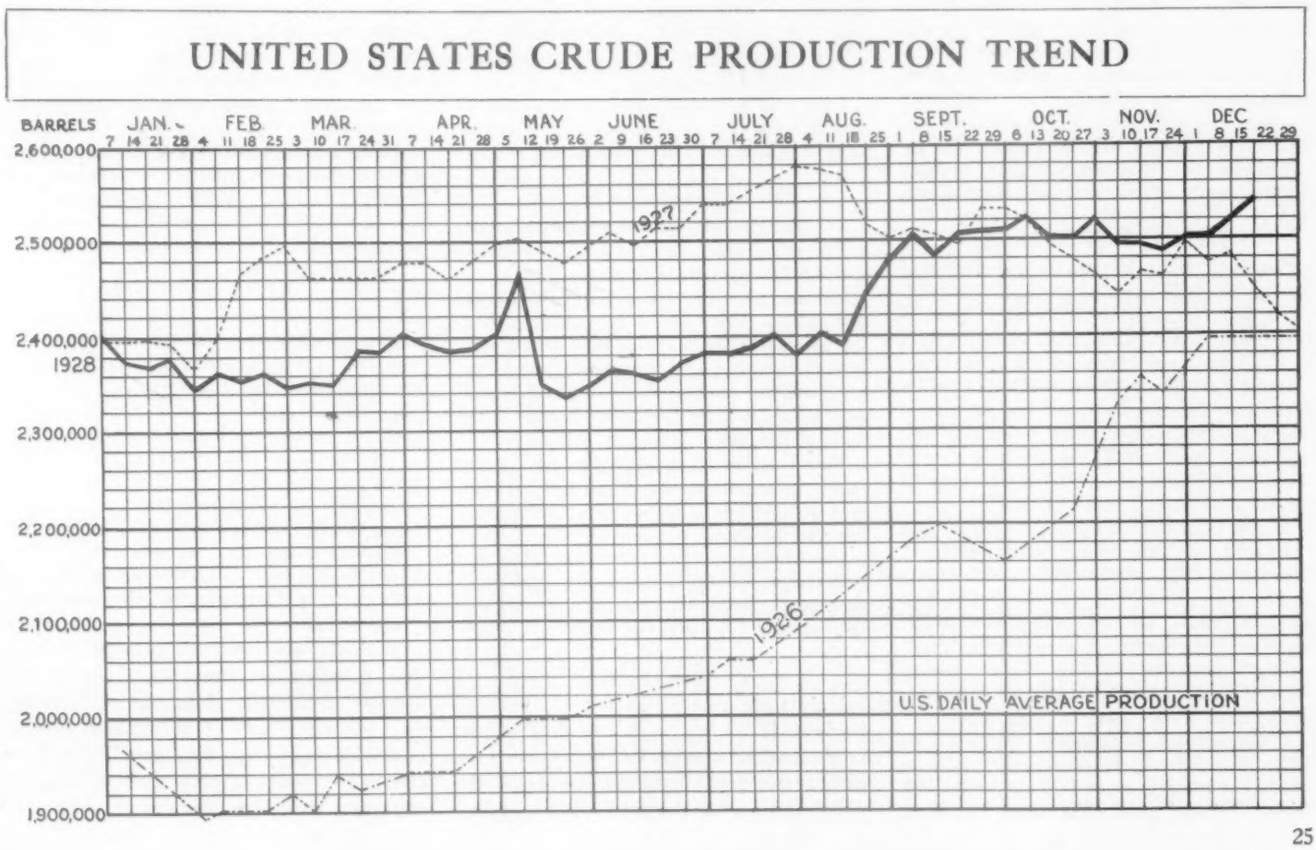
By H. J. STRUTH
Petroleum Economist

THE marking up of all grades of Pennsylvania crude 25 cents, and Buckeye crude 35 cents, on December 14, cannot be construed as having any significance to the general crude market. An analysis of the situation as it applies to that particular Eastern area discloses underlying strength. Crude produced in the Pennsylvania field has been in good demand during most of this year, while production has failed to keep pace with market requirements. In the Appalachian area, stocks of crude have declined from 8,603,000 barrels on June 30, to 7,697,000 barrels on October 31. At present, these stocks are considerably lower. Although Pennsylvania crude is in a class by itself in the crude market, it is believed that the new values may prove to be only temporary, in the final analysis. In other words, while a premium may be justified for Pennsylvania crude at the present time, the fact that practically all other sections of the country are faced with a constantly growing surplus, indicates the possibility of further weakening of the refined oil market structure. When refiners find their margins wiped out by higher crude prices and lower refined oil prices, it is obvious that the remedy will be to divert their operations to the use of other crudes that are now becoming a glut on the market.

It begins to look as though the only remedy for the present situation will be to reduce the posted prices of California crudes. In less than one month, the national production has risen 56,000 barrels daily. Last week, the national output aggregated 2,546,800 barrels daily, a gain of 25,950 barrels over the preceding week. Of this gain, California contributed 18,000 barrels. The situation in California is decidedly unfavorable and it is already indicated that it will become a great deal more unfavorable during the next few months. There seems to be a lot of talk out there about curtailing output, but the drilling fever is raging on at a high rate. Unless some definite action is taken by California operators, immediately, there is imminent danger of a cut in oil prices. In view of the heavy movement of California oil to the East, it looks as though the weakness that is developing there may soon exert a weaker tone to the entire crude market structure.

Danger in Gains

A month ago, there were numerous signs of encouragement for 1929, but now, it is becoming evident that these signs were merely a "flash in the pan." California, Southwest and West Texas, the Gulf Coast, Oklahoma, the Mountain States, and even the Eastern States continue to register consistent gains in production. These gains have more than offset the improvements of other sections, and have already wiped out all of the improvements noted less than 30 days ago. Even when there were signs of encouragement, and there was talk of a possible increase in the price of Mid-Continent crude, it was pointed out in this department that the crude situation was still far from the point where an increase in posted prices was justified. Recent developments make it more apparent than ever that the petroleum industry is in a dangerous position. If there was ever a need for proration in the critical fields, it is now. Unless constructive steps are



Details on Critical Fields

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS:								
Hendrick	450	2,496,945	5,549	459	146,140	*318	5	81
Church-Fields	188	203,245	1,081	187	28,795	154	..	1
Gulf-McElroy	68	55,740	820	67	13,080	195	..	3
Yates	281	1,825,545	6,497	281	73,640	*262	4	11
Totals	987	4,581,475	4,642	994	262,655	264	9	96
TEXAS PANHANDLE:								
Hutchinson County	1,131	548,855	485	1,005	28,655	29	5	24
Gray County	300	125,200	421	290	22,890	79	8	50
Carson County	181	59,370	328	157	5,470	34	2	11
Wheeler County	44	14,645	333	35	820	23	8	11
Moore County	5	3,650	730	3	2,995	998	3	9
Totals	1,661	752,720	453	1,490	60,830	41	26	105
OKLAHOMA—								
Seminole	1,593	2,091,980	1,313	1,285	*273,978	213	42	204
St. Louis	290	324,449	1,115	273	132,946	486	12	78

*Production partially Pinched. **Mission and Maud districts partially pinched.

taken immediately, we face another year of depression.

Apparently little improvement can be anticipated in the light oil market situation until at least the latter part of 1929 from present indications. The industry is entering the new year with several very highly regarded areas undeveloped, and which are likely to produce considerable oil during the coming year.

Threatening Areas

Mission, Maud and Allen are the foremost undeveloped market factors in Oklahoma. Mission development is already under way, and Maud is partly under development, with Allen shut in. The last of the Mission exploration is scheduled to get under way February 20. General tendency is to lower the potential production estimates of this area due to several tests running low. Some definite idea of the field's possibilities will be known shortly after the first of the year, as present drilling wells reach the lower formations.

Runs to Stills Reduced

Group 3 refined market was featured during the past week by general reduction of crude oil runs to stills and lowered price quotations. Crude oil runs to stills in the Mid-Continent today are 55,000 barrels below the daily runs a month ago. Oklahoma refiners have reduced their runs 30,000 barrels daily; 10,000 barrels of the decline is in West Texas, 7000 in North Texas, 6000 in Kansas, and the remainder in Arkansas and Louisiana.

U. S. Motor gasoline, 58-60, 375 end point, has a high of 8½ cents, with an average of 8¼ cents per gallon. Some refiners are selling this grade of gasoline at eight cents. There is plenty of it available at 8¼ cents. A few independent refiners continue to ask higher prices. This compares with a high of 9¼ cents and a low of 8¼ cents a week ago.

Other grades of gasoline were off in proportion. 60-62, 400 end point, had an average quoted price of 9 cents per gallon, 64-66, 390 end point, 9¼ cents a gallon; and 64-66, 375 end point, 9¾ cents per gallon, with some bought for export purposes as low as 9 cents a gallon.

There was very little trading in natural gasolines. Prices show a wide variation, with buyers making most of the quotations. Grade A, has an average of 8¾ cents per gallon, with AA grade 7⅝ to 7¾ cents. BB grade is 6½ to 6¾ cents, with B grade 7 to 7½ cents. C is 6¼ cents.

Kerosene of 41-43 water white quality has an average price of 5½ cents per gallon, with 42-44 water white grade at 6¼ cents. This is no reduction in price.

There is good demand for 38-40 straw distillate, which has a posted price of 3½ cents, or slightly higher than a week ago. 32-36 gas oil (straw distillate) remains the same at 2½ cents.

Fuel oils are generally slow, with good demand for zero test grades. No reduction in prices have been made.

North Texas Market Off

Further inroads on the operating profits of North Texas refiners were sustained during the past week when prices on U. S. Motor gasoline dropped below 8 cents per gallon. With a few spot sales recorded at 7¾ cents. Trading is slow, with buyers in control of the market, and lower prices are confronting the plant owners at least until after inventory period at the end of the year. Fuel oil, which is normaly an active product on the mid-winter market, has failed to respond this year, and North Texas quotations range from 52½ to 55 cents per barrel.

Increased buying of kerosene lately has reduced stocks to a minimum, and early this week standard grades were netting the refiners 5½ cents per gallon.

California

Unless the over-production at Santa Fe Springs is curbed, a weakening of the crude market is expected. Production has already reached 75,000 barrels from the deep sand, giving the field a total production of more than 100,000 barrels for the first time in several years. Although little fear has been manifested, an unusually high production from the Buckbee and intermediate zones will create a large surplus of crude oil. The major companies are ready and willing to purchase this light crude, but a prolonged over-production might change the situation. The sand was not expected to prove more than a big flash, but the advent of the intermediate zone and its tendency to yield consistently have slightly changed the complexion of the field and a flood of crude seems upon us. Efforts are being made to prorate runs to avoid state supervision and something along this line undoubtedly will be done. With other fields in the Los Angeles basin showing a gradual decrease, Santa Fe Springs will not be an upsetting factor if curtailment becomes a reality.

Long Beach continues a strong market factor, due to its stubborn resistance to a further decline. With a production in excess of 190,000 barrels, this famous field is accounting for more than one-fourth of the state's total. More than 150 wells are drilling and the steady string of completions is expected to hold production above 175,000 barrels for at least six months. Long Beach crude is finding a ready market, but the demand is not so keen as before the discovery of the deep zone in the Santa Fe Springs field.

The fields in the northern part of the state are potentially great, and will soon share the spotlight with the Los Angeles basin fields, but they are not affecting the market a great deal at this time. The new Elwood field is producing 10,000 barrels of very high gravity oil from only three wells.

Both the domestic and foreign demand for gasoline continues good, with no change in either wholesale or service station prices. Fuel oil is moving slowly, and with a softening tendency. The winter demand is only slightly better than at the same time last year.

Results Encourage Wildcat Work in New Mexico

Only three oil tests have been completed in effort to extend production from West Texas but gas recovery has reached important proportions

By H. H. KING
Staff Representative

ARTESIA, New Mexico.—Efforts being waged by major companies and independent operators to develop oil production from the "big lime high" that extends in a northerly direction across the O'Brien, Hendrick and Llano-Daugherty pools, Winkler County, Texas, into Lea County, New Mexico, has yielded mostly big gassers and failures. However, sufficient oil production is showing from three successful completions along this trend in Southeastern New Mexico to dispel the idea that oil production in the lime halts at the Texas' side of the state line. and wildcat activity promises to be materially increased during the coming year.

Lea County embraces an area about 108 miles in length, and averages about 35 miles in width, while a high percentage of the land is owned by the State of New Mexico and the United States government. Most of the wildcat exploration work has been conducted on state and federal permits, and because of the drilling requirements on certain classes of permits the field activity has been pushed along more rapidly than would have been with regular lease contracts in effect. Lea County is one of the most isolated areas in the Southwest that is engaging the attention of oil operators on a large scale, owing to lack of telegraph, telephone, railroad and highway facilities, but the latter inconveniences are practically sure to be eliminated in the near future, excepting possibly good roads.

The lease and royalty play given Lea County within the past 12 months surpasses that enjoyed by any group of counties in the West Texas district in both volume of acreage and financial outlay, and the bulk of the activity has been conducted by leaders in West Texas operations. Completion of a number of favorably located wildcats in regard to the general trend of expected production from Winkler County lately as failures have slowed down trading to a noticeable degree.

Only one credible oil producer has been obtained from more than a score of completions, including failures, in Lea County, and this is the Mid-West Refining Company's Neis-State permit 1, located a mile southwest of the town of Hobbs and four and one-half miles west of the New Mexico-Gaines County, Texas, line. It is in the northeast corner of the northeast quarter of Section 9-19s-38e. This wildcat is flowing an average of 750 barrels of 36 gravity oil daily from lime at 4050-4214 feet after plugging back from a sulphur water horizon at 4217 feet. It is credited with having made as high as 1,000 barrels daily when opened after being shut in for storage. The oil is stored in a nearby 55,000 barrel steel tank. No gas of any consequence was encountered above or in the oil pay. The drilling crew entered the oil pay the middle of last June and carried on a series of production tests as more footage was made, and early in November, or nearly five months later, further progress was halted by the appearance of a little sulphur water in the bottom of the hole at 4217 feet.

Trend Toward Winkler County

Heavy gas flow and oil production developed in the southeast corner of Lea County by The Texas Production Company's Rhodes-Government permit 1 shortly after the discovery of oil in the Llano pool, located in Northern Winkler County and in a trend between the above well and the Hendrick field, gave weight to the theory that the lime would produce in Lea County. It was these two developments that set the lease and royalty play off on a large scale, although the middle far western part of Lea County had previously enjoyed some activity through the successful completion of small oil producers from the deep lime by the Maljamar Interests of Artesia.

The Rhodes well, located 990 feet from the northern line and 2310 feet from the west line of Section 22-26s-37e, encountered the big lime at 2925 feet, and struck a gas pocket at 3040 feet. A string of eight-inch casing was cemented at 3105 feet, and the well blew in as a 16½ million cubic foot dry gasser September 1, 1927, after drilling plug. It was carried to 3213 feet, and officially completed October 31, 1927, with an initial production of 120 barrels of oil and 23,000,000 cubic feet of gas at 3040-3213 feet.

No effort has been made to produce the oil from the Rhodes well, but some revenue has been derived from the gas through the sale of same to other wildcats in this general section of the county. Announcement was made in June, 1928, of the sale of one-third interest each to the Amerada Petroleum Corporation and the Columbian Carbon Company on 16½ sections of land, centering on Township 26 south, Range 37 east, and surrounding the Rhodes producer. Since the Texas Production Company parted with two thirds interest in its block, five new locations have been made, with drilling under way on three. Columbian Carbon Company is particularly interested in this area for its carbon black manufacturing possibilities.

Marland Active

Marland Production Company has taken the initiative on extensive exploration work in Lea County, having started 13 deep tests during 1928 in Lea County, and one across the line in Eddy County. The latter proved dry, while five of the 13 have been classed as failures in Lea County, with three tests trying to get through big gas flow in the lime. Marland Production Company has more than 1,000,000 acres leased, or controlled by permits, and made a deal early last summer for the sale of a one-quarter interest in about 426,000 acres to The California Company, subsidiary of Standard of California, for a reported consideration of $500,000. Some of this acreage included drilling tests. This deal assures a pipe line outlet in the event commercial production is obtained in attractive quantities, as Standard Oil Company of California has a trunk line extending from the Hendrick field to El Paso, and the crude supply is largely obtained by exchanging Yates crude to Humble Oil & Refining Company for Hendrick crude.

Geo. H. McIntyre is general superintendent in charge of New Mexico operations for Marland Production Company, and headquarters are located near Jal at the Sholes camp. The Company has moved in heavy rotaries to try and drill through the heavy gas flows in its Eaves, Lynn and Sholes tests, but cable tools are most generally used by all the companies in the county.

Marland Production Company and The California Company's Sholes 1, Section 19-25s-37e, gauged 73 million cubic feet of wet gas with 1435 pounds rock pressure at 2624-3030 feet, and will yield about .17 gallon of natural gasoline per 1,000 cubic feet. The crew has to bail drip gasoline from the cellar at frequent intervals when operations are

LEA COUNTY, NEW MEXICO, FAILURES

Company, Farm and Location—	Surface Elevation	Top Salt	Top Lime	Total Depth	Date Completed	Remarks
Caprock O. & G. Co.'s Levers-State 1, 330 ft NW cor SE¼ SW¼, Sec. 11-16S-32E	4307			4915	8-29-27	(W. S. 4850-4915 ft.)
Covert et al's State 1, 250 ft from NW cor NW¼, Sec. 15-21S-33E	4225	1011		4434	8-10-27	(W. S. 4430-4434 ft.)
Cranfill-Reynolds & Magnolia Pet. Co.'s State 1, 330 ft from NE cor SE¼ SE¼, Sec. 23-26S-36E	3860	1190	3860	3500	12-11-28	(W. S. 3465-3500 ft.)
The Exploration Co. of Texas' Henry S. Record Fee 1, C NE¼, Sec. 25-19S-35E	2918	1835	3083			
Henderson-Dexter & Texas Prod. Co.'s Wyatt-Gov. permit 1, 330 ft from SW cor SW¼, Sec. 34-17S-33E	3690	1775	4005	4554	7-10-28	(W. S. 4424-4554 ft.)
Infield-Bridges et al's State 1, 330 ft from SE cor SE¼, Sec. 4-17S-34E	4052	1580		5367	1-20-28	
W. H. Holmes-Huey et al's State 1, (2nd hole) C SW¼, Sec. 18-12S-35E	4095	1806		5329	12- 2-27	(W. S. 5204-5329 ft.)
Marland Prod. Co.'s Roberts (Gov. permit No. 4) 1, 330 ft from SW cor, Sec. 20-23S-36E	4131					
Marland Prod. Co.'s Siedeman (Gov. permit No. 3) 1, 300 ft from SW cor SW¼, Sec. 4-25S-36E.	4257			1900	12-19-27	Junked
Marland & The California Co.'s Danciger (Gov. permit No. 6) 1, 330 ft from SW cor, Sec. 7-23S-36E	3410	1775	3842	3949	6- 6-28	(W. S. 3895-3905 ft.)
Marland & The California Co.'s King (Gov. permit No. 8) 1, 330 ft from NE cor NE¼, Sec. 26-25S-32E	3190	1470	3495	4125	6 -7-28	(W. S. 4120-4125 ft.)
Marland & The California Co.'s Slattery (Gov. permit No. 14) 1, 330 ft from SW cor NE¼, Sec. 7-32S-34E	3470	2010	3575	4035	11-28-28	(W. S. 3844-3861 ft.)
Ohio Oil Co.'s Wm. Mitchell-State 1, 330 ft from NE cor NW¼, Sec. 18-17S-32E	3421	1062		4335	11-28-28	Salt
C. E. Reynolds Drilling Co.'s W. R. Anderson 1, C SE¼, Sec. 29-13S-37E	3519	1760	3650	4155	12-11-28	(W. S. 4145-4155 ft.)
Texas Production Co.'s Jackson Gov. permit 1, 330 ft from SE cor SE¼, Sec. 4-20S-34E	3930					
Texas Production Co.'s Lockhart-Gov. permit 1, 330 ft from S and 400 ft from E lines SE¼ SW¼, Sec. 5-22S-38E	3949	905		4385	4-29-27	(W. S. 4029-4385 ft.)
	3905	2485	4770	5235	12- 1-28	
	3995					
	3634	1540	3670	4031	10- 2-27	(W. S. 3745-4031 ft.)
	3373	1725	4097	4507	11-27-27	(W. S. 4480-4507 ft.)

LEA COUNTY, NEW MEXICO, WILDCAT OPERATIONS

Company, farm and location—	Surface Elevation	Top Salt	Top Lime	Pay Horizon	Total Depth	Remarks
Cecil Bordages et al's Hughes-State 1, C S½ Sec. 27-19s-38e	3613	1660	3750	4005-4012	4012	SD
Cranfill-Reynolds et al's Wilson-State 1, 1650 ft n and 2310 ft from e lines NE¼ sec 23-25s-36e						Lcn. T. A.
Curtis Drilling Co. et al's Stovall-Neal-State 1, C NE¼ Sec. 22-18s-34e	4035				1150	SD
			3670			
Empire Gas & Fuel Co.'s State 1, 330 ft from ne cor NW¼ Sec. 8-21s-35e	3640	1865	3420	3820-3831	3831	P. 85 bbls (9-11-28)
Empire Gas & Fuel Co.'s State 1-C, 330 ft from SW cor SW¼ NW¼ Sec. 12-21s-34e	3714				1305	Drl.
Gypsy Oil Co.'s State 1, 330 ft from SW cor SW¼ Sec. 34-21s-36e	3562	1640	3071		3920	Drl S/Oil-Gas
Gypsy Oil Co.'s H. T. Mattern-State 1, 330 ft from sw cor SE¼ Sec. 24-21s-36e						Lcn.
Henderson-Dexter's Jewett-McDonald 1, 330 ft from se cor Sec. 18-20s-34e	3631				280	Drl.
	4131					
W. H. Holmes-Huey et al's State 1, (3rd hole), C SW ¼ Sec. 18-12s-35e	4258					Rig
Maljamar Oil & Gas Corp's Baish-Gov. permit 1, 330 ft from ne cor Sec. 21-17s-32e	3988	950	2515	3920-4124	4140	100 bbls & 10 M Gas
Mitchell-Gov. permit 1, 330 ft from SW cor Sec. 4-17s-32e	4046	945		3715-3790	4230	100 bbls. (4-29-27)
State 1, 330 ft from NE cor Sec. 15-17s-32e			2765	3889-3904	4335	10 bbls.
State 1, 330 ft from SE cor Sec. 16-17s-32e	4003			3600-3610	4115	150 bbls. (4-29-27)
Maljamar O. & G. Corp.'s Pearsall-State 3, C NE¼ Sec. 33-17s-32e	3944	1092			2610	Drl.
Maljamar O. & G. Corp.'s Beardsley 1, 330 ft from NE cor SE¼ NE¼ Sec. 15-17s-32e	4054	1172		3880-3895	4335	P. 10 bbls (6-6-28)
Marland Prod. Co. & The California Co., Brooks (Gov. permit No. 9) 1, 330 ft from NW cor SW¼ Sec. 8-20s-33e	3550					
J. S. Eaves (Gov. permit No. 1) 1, 300 ft from SW cor SE¼ Sec. 19-26s-37e	3535	1735	2915		3495	(HFW (Sul) 3210-55 ft)
Lockhart (Gov. permit No. 13) 1, 330 ft from NE cor NW¼ NW¼ Sec. 31-21s-36e	2960	1173	2620	2905-3000	3000	FSH 90 Mil. gas
Lynn (Gov. permit No. 7) 1, 350 ft from NW cor SE¼ Sec. 26-23s-36e	3635	1785			1855	Drl.
Myers (Gov. permit No. 11) 1, 330 ft from SW cor NW¼ Sec. 26-20s-37e	3390	1450	2790	3175-3208	3375	Drl (40 Mil. 3175-3208)
J. W. Reed (Gov. permit No. 10) 1, 330 ft from NE cor SW¼ Sec. 22-20s-36e	3530	1320	2795		2845	Drl.
M. F. Sholes (Gov. permit No. 2) 1, 300 ft from NW cor SW¼ Sec. 19-25s-37e	3598				1620	Drl.
Warren (Gov. permit No. 12) 1, 330 ft from SE cor SW¼ Sec. 28-20s-38e	3063		2550			
Mid-West Ref. Co.'s Farnsworth-Gov. permit 1, 330 ft from SW cor Sec 12-26s-37e	3110	1045	2584	2624-3030	3030	FSH (60 Mil gas)
	3528	1500			2600	Drl.
		1065	2500			
	3013	1125	2794	3450-3455	3877	FSH (OIH)
	3632					
Mid-West Ref. Co.'s State 1, 330 ft from NE cor NE¼ Sec. 9-19s-38e	3707	1625	3706	4050-4214	4217	750 bbls (11-8-28)
Mid-West Ref. Co.'s C. Farnsworth-Gov. permit 1, 990 ft from n and 330 ft from w lines Sec. 13-26s-36e						Lcn.
A. D. Morton et al's State 1, center NW¼ Sec. 32-11s-38e	3760				1010	Drl.
Ohio Oil Co.'s State 1, 330 ft from NE cor Sec. 14-22s-36e						Lcn.
Ohio Oil Co.'s State 1, 330 ft from NE cor Sec. 14-22s-36e						Lcn.
Prairie O. & G. Co.'s Slattery-Gov. permit 1, 330 ft from NE cor NE¼ Sec. 22-22s-34e						Lcn.
Rector Oil Co. et al's Maechtel-Gov. permit 1, 330 ft from SW cor Sec. 5-26s-33e	3294	1150			2960	Drl.
Skelly Oil Co.'s Joyner-Gov. permit 1, 330 ft from NE cor SE¼ Sec. 26-25s-36e	3029	1125	2992	3248-3259	3259	Re-set cas (OIH)
Texas Pacific Coal & Oil Co.'s State 1, 330 ft from SE corner SW¼ Sec. 22-23s-36e	3407					Rig
Texas Production Co.-Amerada & Columbian Carbon, Cagle-Gov. permit 1, 330 ft from SW cor NE¼ SW¼ Sec. 9-26s-37e	2961	1110	2990	2836-3340	3340	Drl. (74 Mil. gas)
Moberley-Gov. permit 1, 330 ft from SW cor NW¼ SE¼ Sec. 17-26s-37e	2967	1210	2873		2880	SD
W. H. Rhodes-Gov. permit 1, 990 ft from n and 2310 ft from w lines Sec. 22-26s-37e			2925			
	2988	1140	3010	3040-3213	3213	120 bbls & 23 Mil. ft. gas, 10-31-27
Sheppard-Gov. permit 1, 330 ft from SE cor SE¼ NE¼ Sec. 6-26s-37e	2970	1130	2643		3030	Drl (show O&G)
Humphreys-Gov. permit 1, 330 ft from SW cor Sec. 18-20s-32e						Rig
B. V. Lynch-Gov. permit 1, 330 ft from NW cor SE¼ Sec. 34-20s-34e						Lcn.
Vacuum Oil Co.'s State 1, center common line between Secs. 13- and 14-17s-34e						Lcn.

under way in trying to recover, or drill by tools and other junk in the hole.

Low Drilling Rates

Competition among both rotary and cable tool contractors have held drilling prices to a comparatively low level, considering the hardships and disadvantages experienced. Prices now range from $5.50 to $6.00 per foot, and most of the rigs are shipped in from the south at Pyote, Texas. The latter point is the supply center for the Winkler County pools, and also the most convenient source of supply for the Lea County operators. Trucking contractors charge on an average of 20 cents per ton mile on heavy equipment moving from Pyote. Owing to the presence of almost endless stretches of shifting sands, many of the operators are forced to build roads before materials can be trucked to the location. The building of the base for a road with caliche costs from $2000 to $2500 per mile.

Appearance of sulphur water in the Gypsy Oil Company's State 1, Section 34-21s-36e, during the past week threatens to remove this wildcat test from the list of the prospective producers after encountering good shows of 36 gravity oil at 3071 feet followed by a flow of 20 million cubic feet of dry gas at 3218-90 feet. Deeper drilling uncovered more gas in the lime, and at 3792-3802 feet the crew bailed 37 gravity oil from the hole, but water is reported to have been encountered at about 3910 feet. Another test is to be drilled by Gypsy Oil Company several miles to the northeast. Skelly Oil Company is trying to shut off upper water to make a test of a good show of oil encountered at the 3250-foot level on its Joyner wildcat in Section 26-25s-36e.

A few of the big gassers in Lea County are showing a very small sulphur content, and an early market for a portion of this gas is to be provided by the El Paso Natural Gas Company, which will build a 16-inch line to El Paso early in 1929.

Marland Building 50-Mile Line from Wichita

San Angelo, Texas.—Gulf Pipe Line Company is negotiating for three new station sites to increase the capacity of its trunk line system out of West Texas to tidewater about 10,000 barrels daily. This company has a 10-inch line extending from its West Texas terminal at Midland to Ranger station, and a combination of eight and ten-inch pipe on to Port Arthur. Movement from Midland averages about 25,000 barrels daily.

The proposed increased capacity will be accompanied by the erection of a skimming plant at Sweetwater, by the Gulf Refining Company, which is now negotiating for a site that will permit tank car shipments over the Orient, Santa Fe and Texas Pacific lines. The spotting of a refinery at Sweetwater would materially reduce the freight expense now borne by Gulf Refining Company in marketing its products in Central and West Texas, as its nearest plants are at Fort Worth and Port Arthur.

Operators Will Delay Drilling in Mission Area

TULSA—Operatos present at the Mission pool shutdown meeting held in Tulsa, December 12, agreed to postpone starting the second crop of wells in that field until February 20. It was originally intended to start wells Nos. 3 and 4 January 1. Two wells to each 40 acres are now drilling. These tests are not to drill into the sand until February 15.

It was thought that by postponing the spudding of the second batch of wells until February 20, that gauges would be available on the first tests, and that several locations that would now be drilled would be left untested, should some of the wells come in as failures.

General belief is that the output of the present tests at Mission may be disappointing and that the potential production may not reach 75,000 to 100,000 barrels on February 15 as first predicted. Some of the tests have found the top of the Mayes formation lower than the dozen producing wells. This is especially true in the northwestern portion of the field. The Mayes formation is not considered a true marker for the Wilcox sand but it at least indicates that the well in all probability will run low.

Proration May be Necessary

Ray Collins, state umpire, pointed out the necessity of further restriction of drilling in other important areas of the state or else proration of production might become necessary within a few months if the crude oil market was not to be flooded with oil.

The most threatening of the outside areas at this time is Township 8-5 or Maud disrict. A meeting of Maud operators will probably be called in the near future to work out a detailed program for the development of that promising region. The Wilcox sand producing territory was carried one-half mile north during the past week, when Empire Gas & Fuel Company's Cluck 1, Section 11-8-5, came in for an initial flow of 40 barrels per hour. This well will permit three offsets which will be pinched to 100 barrels daily.

The western half of the Maud district offers another problem. A large prolific Misener and Hunton lime pool is rapidly being developed. These operators will probably be asked to hold Misener and Hunton locations to as few as possible and not to drill to the Wilcox sand. Amerada Petroleum Corporation's Gossland 1, NEc SW Section 8-8-5, is already near the Wilcox sand in this vicinity, and it may have an important bearing on the future conservation program of western Maud.

Umpire Collins hopes to be able to permit each field to be developed according to the date of its discovery and for this reason several other areas are ahead of western Maud.

Other Areas Also Threatening

The Allen pool of southern Seminole County is another very important area. Sinclair Oil & Gas Company has notified Umpire Collins that it desires to open up its Wilcox sand discovery well in Section 7-5-8e, on the first of the year. It is hoped that the company may be persuaded to postponed this action. Indications are that the Allen field may be a major one. T. B. Slick's test in Section 24-5n-7e, several miles southwest of the Sinclair Wilcox sand producer, is running high and is thought to have an excellent opportunity of finding production. Slick has promised to withhold the drilling in of this well.

Acreage at Allen is generally divided into small tracts, although Sinclair Oil & Gas Company and Sunray Oil Company are the principal owners. Sunray Oil Company has a well south of the Wilcox sand producer now shut down in the Hunton lime which is ready to drill ahead if things should be opened up. If rigid restrictions were not enforced a fast exploration of the Wilcox horizon could be expected in this region.

The area surrounding the Indian Territory Illuminating Oil Company's No. 1, Section 24-11-3w, south of Oklahoma City, is not expected to have a speedy development.

It is probable that a meeting of Kansas operators will be called in the near future for the purpose of discussing the conservation problems of that state. Recent new strikes in Sedgwick County are expected to cause a big wildcat development campaign in central Kansas. The area surrounding the new strikes are fairly well controlled by large blocks, but exploration along the outside and scattered regions is fast forming.

Gulf's West Texas Line To be Increased

Tulsa. — Marland Pipe Line Company has awarded contract for construction of 50 miles of pipe line from the Wichita area to the Oxford district, Sumner County, Kansas, to Gruman & Smith of Augusta, Kansas. The new line will tie into the company's pipe line system at Oxford and with the line running to Ponca City.

The line will have a capacity of 20,000 barrels of crude daily. The cost is estimated at $500,000. Construction is to start immediately with a force of approximately 300 men on the job, and is expected to be completed by March 1. About half of the right-of-way has been secured and the survey work is practically completed. It will be a combination six- and eight-inch line. Several pump stations are to be erected.

Tulsa. — Prairie Pipe Line Company shipped 60,564,345 barrels of crude oil during the first 11 months of 1928, which is a daily average of 180,879 barrels. This compares with 59,181,091 barrels moved during the corresponding period of 1927, or an average of 177,188 barrels daily.

Greater Seminole Production Off Despite Maud Increase

TULSA.—Maud field production increased to another new peak during the 24 hours ending 7 a. m. Tuesday when it recovered 17,375 barrels. This sent Greater Seminole crude output up to 272,593 barrels for the 24 hours.

Other fields produced as follows:

Little River 82,989 barrels; Mission 790 barrels; Bowlegs, 45,370 barrels; Earlsboro 74,154 barrels; Seminole proper 41,887 barrels; and Searight 10,028 barrels.

Pure Oil Company's Dodson 1, NE SE SE Section 26-7-4, top of Simpson sand 4290 feet, had 2500 feet of oil in the hole at 4317 feet. Deepened to 4325 feet where it found water. This is an important well since it is a southwest St. Louis location.

Amerada Petroleum Corporation's Gossland 1, NEC SW Section 8-8-5, is the center of attention in the Maud district. This test, in western Maud, is preparing to drill into the Wilcox sand. It's outcome will mean much to the further development of the region. It topped the Simpson sand at 4295 feet and is drilling at 4300 feet, with a show of oil and gas. The test will probably be completed by the time this is in print. Correlations based on the top of the Viola lime show it running approximately 10 feet lower than the Indian Territory Illuminating Oil Company's School Land well in Section 16-8-5, which made but a small well after plugging back to shut off the water found in the lower Wilcox sand. This does not speak any to well for the possibility of production in the Amerada Petroleum Company well, but then either the Indian Territory Illuminating Oil Company or Amerada Petroleum Corporation might have a crooked hole which would throw these correlations off.

The Wilcox sand producing area of the Maud district was extended one-half mile north by the Empire Gas & Fuel Company's Cluck 1, SWc NW NE 11-8-5. This well flowed 1386 barrels in 24 hours from a total depth of 4182 feet. It was necessary for Umpire Ray Collins to grant permission for the drilling of four wells as the result of this completion.

Within a short time additional wells in the area surrounding the Wilcox sand discovery well of Barnsdall Corporation in Section 14-8-5, are expected to reach the pay sand. Several of them have passed through the Hunton lime. All encountered small showings, which is characteristic of wells in this region.

The best well of western Maud was the Sinclair Oil & Gas Company's Bellars 2, NWc NE NE Section 19-8-5. It came in for 125 barrels per hour from Misener sand at 4128-38 feet.

Extend St. Louis Pool

T. B. Slick's Davis 1, SW NW NE Section 18-7-5, one mile north of St. Louis production in the Wilcox sand, swabbed 752 barrels in 18 hours from Wilcox sand 4102-07 feet.

This was the only encouraging development at St. Louis during the week. Two failures in the Wilcox sand were completed in the Wilcox sand region in western St. Louis, which defined the area to the northeast and the southeast. Blackwell Oil & Gas Company's Lewis 2, Section SE SW NE 24-7-4, filled up with water from 4330-80 feet. Sinclair Oil & Gas Company No. 3, SE NW SW 25-7-4, found oil in the Wilcox sand from 4383-85 feet, with water at 4388 feet. It will be plugged back and should make a small well.

Several wells in the Mission pool are reaching the lower formations, and indications are that the majority of the present drilling wells will be ready for completion on February 15, when the field will be opened up. Gypsy Oil Company's Mission 2, Section 5-8-6, has found the Viola lime at 4358 feet and is setting the eight-inch casing at 4368 feet. It is one of the deepest tests. Several other wells are in the Sylvan shale.

Production Off

Greater Seminole crude oil production continued to decline during the past week despite the increase at Maud. The new low for the field is now 269,719 barrels from 1289 wells. St. Louis production also showed a smart decline during the week, but this was due largely to Magnolia Petroleum Company having trouble with an air plant.

Crude oil production of the two important districts for 24 hours ending 7 a. m. December 17 was divided as follows:

Pools—	Wells	Barrels
Little River	310	83,254
Maud	15	14,816
Mission	12	812
Bowlegs	312	45,966
Earlsboro	291	73,855
Seminole Proper	282	41,067
Searight	67	9,949
Total Seminole	1289	269,719
St. Louis	274	124,750
Grand Total	1563	394,469

Approximately 6000 barrels should be added to the St. Louis recovery since that much production has been lost as a result of the Magnolia Petroleum Company air plant trouble. This would raise the grand total of these two outstanding flush areas of the state to about 400,000 barrels daily, which is still the lowest point since the opening of the Little River field October 1.

There is considerable interest being shown in the possibility of a southeast extension to the Earlsboro field. Magnolia Petroleum Company's Gilliam 1, Section 13-9-5, which surprised operators by coming in for a big flow, continues to hold its production near 3500 barrels daily. Several offset wells are starting to this one-mile extension producer.

Two important wildcats report progress during the week. Both are located between the new Trosper Park pool at Oklahoma City and the Greater Seminole district.

Superior Oil Corporation's Sailor 1, SWc NW NE Section 24-8-2, Macomb district, western Pottawatomie County, is drilling by the pipe after an unsuccessful fishing job. Good progress for this hard job is being made. The test has a good show of oil in a rotary hole in the Hunton lime. T. B. Slick's wildcat in NWc Section 17-7-2e, same district, is drilling at 6003 feet. It is thought to be in the Simpson sand. Nothing is showing.

Robert W. Egan Dies

Tulsa.—Robert W. Egan, vice president of the Petroleum Publishing Company of Tulsa, died suddenly Saturday morning at his home here. Mr. Egan had for seven years been in charge of the Oil & Gas Journal of Tulsa and the Oil City Derrick of Oil City, Pennsylvania.

For several days he had been partly confined with a touch of influenza but this had not been considered serious. He was expected to return to his office the day of his death.

Funeral services were held at the Church of Christ the King here Monday. The body was then forwarded to Pittsburgh, his former home for burial.

Mr. Egan came to Tulsa in November, 1921, from Pittsburgh, where he had spent many years in newspaper and publicity work. He was managing editor of the Pittsburg dispatch for 10 years.

During the war he was engaged in editorial and publicity work of various types. He also spent some time in Europe in associational work, part of it in Belgium, some in France and also in Italy. He was decorated by the French government for his work. Duquesne university of Pittsburgh conferred the degree of doctor of literature on him in recognition of his war work. Pope Pius XI made Mr. Egan a Knight of St. Gregory the Great, in recognition of his activities during the war.

Mr. Egan was a member of the Tulsa Country club and the Tulsa club. His widow and one brother, John M. Egan of Oil City, Pennsylvania, are the immediate survivors.

Santa Barbara, Calif. — Cat Canyon, often considered as one of California's freak fields, got a small boost in production during the week, with the completion of a 200-barrel well by the Palmer-Union Oil Company. The oil was 12 gravity and showed a cut of 20 per cent. sand. The completion of a producer in this field is not regarded as important, but constitutes an oddity. Production is obtained at about 3500 feet and the oil is so heavy that is has to be raked when very cold. The crude is used chiefly as road oil, having practically no light fractions.

Propose to Drill Oklahoma City Well Deeper to Wilcox Sand

Geologists are divided in the opinion that production is from Simpson or Hunton formation; work starts on offset locations

By WARREN BAKER
Staff Representative

TULSA.—While identification has not been made of the exact formation, geologists are agreed that the Oklahoma City well of the Indian Territory Illuminating Oil Company and the Foster Petroleum Company is producing either from the Simpson or Hunton lime. Perhaps a majority favor the Hunton.

Lack of accurate information and the possibility of present theories being overturned is partly responsible for the effort to drill deeper. If it can be accomplished, the hole will be taken to the Wilcox sand. The owners, however, desire to keep the production of the present well, despite the desire to gain the necessary geological information from the test.

The well continues to hold first place in Mid-Continent petroleum circles. It has now been deepened nine feet and the hole will be carried down as fast as conditions permit.

Total depth of the hole is now 6413 feet. The first three feet showed a lrage increase in production, with the well making as high as 361 barrels in one hour. Gas pressure doubled to 7,000,000 cubic feet.

When the well was opened to permit deeper drilling it was cutting its output 30 per cent. with basic sediment. This was thought to be from the mud and water pumped into the hole in an effort to kill the flow. Later this cutting had declined to less than one-half of one per cent. Several thought that he well had flowed long enough to thoroughly clean itself, but regardless of this belief little importance was attached to the water showing.

The well was opened after being shut in several days awaiting the completion of a 4½-mile four-inch line from the well to a loading rack. Immediately upon the completion of this line the storage tanks were drained, followed by the opening of the well. The oil is being moved from loading rack by tank cars to the Empire Companies refinery at Ponca City. The first shipment consisted of 18 tank cars.

Production of the well was slumping the latter part of the week. Sunday it was 6380 barrels, compared with 5040 barrels the following 24 hours. This was thought to indicate that the pressure might be declining.

No further efforts to mud off the flow are anticipated until the pressure has declined. The last orders received by the drilling crew were to continue drilling ahead. This order shows the desire to the companies to test out the Wilcox sand, since it is dangerous to drill in a hole with such heavy pressure, especially at so great a depth.

Geologists Still Uncertain

The Indian Territory Illuminating Oil Company and Foster Petroleum Company want to know the value of the properties in the vicinity of the well, and a thorough test is necessary to obtain this information. They are not faced by the drilling of a few offset wells but with many because of their vast acreage holdings.

New Work Starts

Ramsey Petroleum Company is spudding Fortson 1, C SW NE Section 24-11-3w, and is the first test to get away. Coline Oil Company's Olds 1, C SE NW Section 24-11-3w, west offset to Ramsey-Fortson, is not far behind. Indian Territory Illuminating Oil Company is starting three tests, as follows: C NE NE, Section 25-11-3w; C NW SE, Section 24-11-3w; and C NE SW Section 24-11-3w. These wells are all spaced in the center of 40 acres.

The only regular drilling in the district, meaning spacing of wells according to 10 acres, is the Hall and Briscoe, C SE SE Section 10-24-3w, which is on townsite lots of Oklahoma City. T. B. Slick has made location in C NE NE Section 8-10-2w, several miles to the southeast. It is in extreme northern Cleveland County. The test will be on a large block of acreage held by Phillips Petroleum Company.

Indian Territory Illuminating Oil Company's Trosper Park 1, C NE SW Section 13-11-3w, a mile north of the producer, is drilling below 3300 feet. It is expected to encounter the gas pay found at 4000 feet in No. 1, the latter part of the week with good success. The performance of this well in the gas formation will mean much. If big production is encountered the value of the gas production will be enormous, since a large structure will be proven. It will also offer a comparison, or correlation with the log of the discovery well.

In addition to these locations others are anticipated in the new Trosper Park pool. Indian Territory Illuminating Oil Company and Foster Petroleum Company have four additional locations that are likely to be made. Three of these would be direct offsets to the discovery producer, while the other would offset the Ramsey Petroleum Company's location to the east. The staking of these locations are expected to await the completion of No. 1. If Indian Territory Illuminating Oil Company moves in on these locations, Sinclair Oil & Gas Company will probably move in on the H. Stamper farm, S½ NW¼ 30-10-2w.

Log

The log of the well, compiled from drilling tickets, follows:

Feet	Feet	Formation
Feet	Feet	Formation
Feet	Feet	Formation
0	to 125	surface red bed, 15¼ inch casing set.
125	1143	Red Shale
1143	1160	Sand
1160	1600	Sand
1600	1650	Sand and Shale
1650	1700	Sand
1700	1780	Shale, sandy
1780	1964	Shale
1964	1980	Lime, broken
1980	2030	Shale
2030	2070	Sand
2070	2100	Shale
2100	2120	Lime, broken
2120	2170	Shale
2170	2175	Sand
2175	2260	Shale, sandy
2260	2300	S. L. M.
2300	2340	Shale, blue
2340	2350	Lime shells
2350	2550	Shale
2550	2580	Lime
2580	2600	Lime, broken
2600	2630	Sand
2630	2732	Shale
2732	2770	Lime, broken
2770	2900	Shale
2900	2920	Lime, broken
2950	3000	Shale
3000	3135	Shale, sandy
3135	3155	Shale and lime shells
3155	3214	Shale and lime shells
3214	3222	Shale, blue and brown
3222	3312	Shale and lime shells
3312	3317	Shale
3317	3354	Lime, broken
3354	3360	Shale
3360	3370	Shale, blue and brown
3370	3412	Shale, sandy
3412	3444	Shale and lime shells
3444	3457	Broken lime, white
3457	3469	Shale, blue
3469	3476	Broken lime, white

3476	3503	Shale and lime shells
3503	3540	Shale, blue and brown
3540	3543	Sand
3543	3556	Steel line correction
3556	3568	Shale, sandy
3568	3586	Shale, blue
3586	3612	Shale, brown
3612	3636	Shale, sandy
3636	3655	Sand
3655	3695	Shale, sandy
3695	3731	Shale, brown
3731	3737	Shale, sandy
3737	3764	Shale, brown
3764	3765	Lime, gray
3765	3785	Shale, brown
3785	3786	Lime, gray
3786	3816	Shale, brown
3816	3822	Sand, white
3822	3828	Shale, blue
3828	3830	Lime, gray
3830	3961	Shale, blue
3961	3966	Sand, white
3966	3975	Shale, blue
3975	3979	Shale, sandy
3979	3989	Shale, blue
3989	3996	Shale and lime
3996	3997	Sand, white
3997	4012	Sand, white to gray with show of gas (25,000,000 cubic feet.)
4012	4013	Sand
4013	4017	Shale, sandy
4017	4019	Sand, show of oil and gas
4019	4032	Shale, blue
4032	4033	Lime shells, white
4033	4041	Shale, blue
4041	4045	Shale, sandy
4045	4059	Shale, blue
4059	4063	Shale, sandy
4063	4087	Shale, blue
4087	4096	Lime, white
4096	4105	Lime, gray
4105	4106	Shale, sandy, blue to green
4106	4137	Shale, blue to green
4137	4148	Shale, sandy
4148	4159	Sand
4159	5162	Shale
4162	4168	Sand, show of oil and gas
4168	4170	Sand
4170	4172	Shale
4172	4193	Shale, blue
4193	4194	Lime shell
4194	4212	Shale, sandy
4212	4231	Sand
4231	4233	Shale, blue, show of oil and gas
4233	4251	Shale, blue
4251	4253	Sand
4253	4272	Shale, blue
4272	4303	Lime, gray and hard
4303	4326	Shale, blue
4326	4337	Lime, white
4337	4359	Lime, gray
4359	4377	Lime, gray
4377	4410	Shale, blue
4410	4411	Sand, white
4411	4422	Shale, blue
4422	4423	Sand, white
4423	4439	Shale, blue
4439	4462	Sand, broken and white
4462	4483	Shale, blue
4483	4492	Sand, broken
4492	4519	Shale
4519	4523	Sand
4523	4541	Shale, blue
4541	4543	Sand
4543	4651	Shale, blue
4651	4653	Lime, sandy
4653	4656	Shale, blue
4656	4660	Lime, sandy
4660	4689	Shale
4689	4690	Lime
4690	4692	Shale
4692	4701	Sand and lime
4701	4712	Shale
4712	4735	Lime, slightly sandy
4735	4749	Shale
4749	4753	Lime
4753	4767	Sand and lime
4767	4770	Sand
4770	4794	Shale
4794	4798	Sand and show of gas
4798	4800	Shale, sandy
4800	4802	Sand
4802	4806	Shale
4806	4816	Sand (45,000,000 cubic feet of gas)
4816	4867	Sand
4867	4878	Shale
4878	4879	Sand
4879	4935	Shale, sandy
4935	5043	Sand
5043	5062	Sand
5062	5190	Shale
5190	5254	Lime
5254	5274	Shale
5274	5298	Lime
5298	5472	Shale
5472	5492	Shale and lime shells
5492	5495	Shale
5495	5499	Lime
5499	5502	Shale
5502	5507	Lime, broken
5507	5547	Shale
5547	5562	Shale with lime shells
5562	6022	Shale
6022	6024	Sand
6024	6103	Shale
6103	6111	Lime, broken shale
6111	6175	Shale
6175	6198	Shale with lime shells
6198	6224	Lime
6224	6258	Shale
6258	6263	Lime, brown
6263	6278	Shale
6278	6284	Lime, white
6284	6303	Lime
6303	6318	Shale
6318	6345	Lime
6345	6348	Shale
6348	6402	Lime
6402	6405	Sandy lime
6405	6413	Dolomitic lime

Ponca City, Okla.—Consolidation of Marland Employees Royalty Company and Southland Royalty Company, under the name of the latter, was completed at a stockholders meeting in Ponca City, December 12. Southland Royalty Company is incorporated under the laws of Delaware and the merger agreed upon must be approved there before it becomes effective.

Press B. Lowrance was elected president of the new firm. Other directors of the company will be William H. McFadden, J. K. Cleary, Sid A. Dellaplaine, Ralph H. Cummins, E. W. Marland, John S. Alcorn, Samuel W. Hayes, Eugene L. Waldo and Chester Westfall, with C. H. Lewis as secretary-treasurer, and Fritz Aurin as chief geologist.

Start Tests Near New Oil Strike in Kansas

Tulsa.—A number of companies during the last week announced intention of starting tests in the vicinity of the new Goodrick strike north of Wichita and near the Wright pool in the same vicinity. Indications are that the wildcat campaign resulting from these wells may exceed early expectations. Two additional wells were started by Marland-Gypsy-Bu-Vi-Bar in the Wright pool, with all of the other locations wildcat or semi-wildcat tests.

Marland Production Company's Goodrick 1, Section 16-25-1e, discovery well, flowed as high as 375 barrels in one hour during the past week when opened up. It is now shut down running six-inch casing. About 7000 barrels of oil is in storage on the farm, and additional tankage is now ready with the pipe line to the Wright field about completed.

Production of the four producers in the Wright field is holding in fine fashion. Marland-Gypsy-Bu-Vi-Bar own all of the wells. Lantz 1, gauged 783 barrels, Lyons 1, 1676 barrels; Lyons 2, 815 barrels; and Wright 1, 1229 barrels.

Interest is now centering around Barnsdall Corporation's wildcat test in NEc NW Section 24-25-1e, three miles east of Marland Production Company's Goodrick producer. This well is said to be finding the shallower formations about 30 feet higher than the Goodrick well. If such a favorable correlation continues until the hole reaches the top of the Kansas City lime, it appears that the well should add another strike to the fast growing string in Sedgwick County.

Reagan Purchasing Co. Declared Big Dividend

Fort Worth, Texas.—A cash dividend amounting to $1,900,000 was authorized by the directors of the Reagan County Purchasing Company to be paid to stockholders on record January 2, 1929, and payable January 5, at a meeting held here December 10. The Marland Oil Company owns 51 per cent of the common stock of the above concern, and the Texon Oil & Land Company and Big Lake Oil Company owns 24½ per cent. each. The Reagan County Purchasing Company is buying the entire production of the Big Lake field, from the latter two concerns on contract for the life of the property at the average Mid-Continent scale price. H. J. Corcoran, Fort Worth, is president of the crude purchasing company.

Tulsa.—Edwin B. Reeser, president of Barnsdall Corporation, has announced that the company would redeem all of its outstanding debentures, amounting to $21,155,500 on February 15, 1929. Attached warrants for stock purchase at $25 per share expire on January 31. The number of shares will be increased to 2,238,475 class A and 15,613 class B, by the addition of 846,220 new shares.

Buckbee Zone Showing Effects of Drainage

Completions near older wells come in with smaller initial; wide distribution of eight new wells shows uniformity of formation

By BRAD MILLS
Staff Representative

LOS ANGELES. — Eight completions —by far the most representative list of new wells finished in one week since the Buckbee zone was discovered— showed a slight reversal in form in some parts of the Santa Fe Springs field and revealed some very important information concerning the trend of production. The new producers were widely separated and disclosed a slightly more uniform condition in the Buckbee zone than earlier completions had indicated.

As evidence that the gas pressure in the Buckbee zone may decline rapidly, it was noted that wells completed near producers which had been on production for several weeks made much poorer showings than those completed in strictly virgin territory. This revelation may be of vast importance and means that the first 50 wells may release the greater part of the gas pressure. It is only natural that each completion should decrease the surrounding gas pressure slightly, but a noticeable decline at this stage of development gives some weight to the theory that the Buckbee zone, due to its thickness of not more than 200 feet, will produce at a high rate for only a very short time.

A survey of developments, week by week since the completion of the first wells, shows the Buckbee zone to hold more promise now than it did a month ago, but less than it held at the beginning. The zone is unusually full of life and, despite its comparative thinness and unmistakable evidence of water in the bottom layers, will give a good account of itself for a few months. The large number of wells that will be completed during a very short period will atone for the failure of the zone to produce consistently for a long period. Completions in clusters will run production up before the gas head has a chance to escape. The extent and uniformity of the zone constitute another question and only the drill will disclose these very important factors. To say the least, wells enough have been completed to prove that both the Buckbee and intermediate zones are good for the "short pull."

The best well of the week was George F. Getty's Montgomery 22, which came in with an initial production of 6000 barrels from about 5800 feet. The oil was 35 gravity and showed a cut of less than one per cent. The well is located in the southeast part of the field and seems to offer further evidence that this portion of the field is destined to play the most important role in the Buckbee zone, just as it did in the Meyer sand in 1923. It is the third large well completed in this immediate area, all of which have been large producers.

The Associated Oil Company was the only operator to complete more than one well during the week. Green 3, a 4800-barrel well at 5780 feet, and Jordan 3, which came in with an initial production of 2600 barrels from 5750 feet, gave the company a good boost, placing it third in deep zone production. Jordan 3 was expected to be an unusually large well, while Green 3 was located in an area which had shown little promise. The completion of the two wells showed exactly the reverse to be 'true and shattered' several pet theories which were harbored because of early developments. Green 3 is located in the considerably-feared northwest sector, while Jordan 3 is a companion and direct offset to Jordan 2, which recently started off with a production of 6800 barrels. The oil from both wells was 35.6 gravity and practically clean. The rapid decline of the company's Jordan 2 seems to have affected the action of Jordan 3. Green 3, on the other hand, had the advantage of opening up another section of the Buckbee sand.

Two unusually small wells were completed during the week but their action can not be attributed to any definite factors. They were The Texas Company's Matern 3-11 and the General Petroleum Corporation's Santa Fe 189-C. The former came in with an initial production of 750 barrels from 5765 feet, with the latter a 950-barrel well at 5800 feet. Both were Buckbee zone producers. The oil in both wells is very clean, failing to disclose a definite reason for the small production. Matern 3-11 is located near Matern 2-7, the second well completed in the Buckbee zone and one which has subsequently shown a high percentage of water. General Petroleum Corporation's Santa Fe 189-C is located near the center of the field and the poor showing could have been caused by mechanical conditions.

4000 Barrel Wells

Shell Company jumped into the select class with the completion of G. H. N 14 as a 4000-barrel producer from 5790 feet. Shaking off the water jinx which pursued the company on another lease, the well is producing clean oil.

General Petroleum Corporation scored heavily with the completion of Hill-Midway 2, which came in with an initial production in excess of 4000 barrels from 5703 feet. This was the second completion the company has effected and probably is the beginning of a steady stream of producers. General Petroleum Corporation, a subsidiary of the Standard Oil Company of New York, is the most active operator in the field, controlling a huge block of leases in the heart of the field.

The Twin Bell Oil Company completed Grohs 4 as a very interesting intermediate zone producer. The well started flowing at the rate of 3500 barrels from 5493 feet and gave the intermediate zone further recognition. The oil was 35 gravity and showed a cut of only one per cent. About 500 feet of the oil zone was included below the final water shutoff.

The intermediate zone received its first reversal, with the poor showing of Graham and Loftus' Santa Fe 1. The well produced at the rate of 2200 barrels, but the fluid showed a cut of 35 per cent. By beaning the well back, the cut was reduced to 25 per cent. The well was completed at 5388 feet and was tested from about 400 feet of the intermediate zone.

George F. Getty's No. 18, which recently sanded up after flowing a short time from the Buckbee zone, has been selected as a deep test of the field, having already passed the 6000-foot level. The Getty interests have not made public their intention, except that the well will be used as a test of still deeper formations. No information is being given out on the well. The well is drilling considerably below the Buckbee zone and will be watched with interest.

The depth at which the Union Oil Company is finding the Buckbee zone on its Bell and Alexander leases indicates that the axis of the formation is 500 to 600 feet north of the Meyer zone axis. This discovery reveals a lack of symmetry. There is the possibility, however, that the wells showing such a condition may be crooked and that the Buckbee zone will conform closer to the Meyer than developments to date disclose.

Associated Oil Company has reached 6250 feet in Clark 2, regarded as a very important test of the northwest sector. The formation is running to gray sand, a very unfavorable condition. The Buckbee shale was found but the main Buckbee zone seems conspicuously absent. The Meyer zone produced fairly satisfactorily at this point and the well is expected to show what may be expected of the Buckbee sand.

Completions in the southeast part of the field are holding up much better than the wells producing in the northwest sector. The rapid decline of some of the wells in the latter area has been attributed to

the Bellview fire, but there is some doubt that one well running wild could have caused such a drop in the gas pressure.

Wells completed near older wells are coming in with much smaller yields than the earlier completions, a condition which has been attributed to the rapid decline in the gas pressure.

The rapidly increasing amount of water in some of the earlier Buckbee zone producers has caused much alarm among operators holding leases near these offending wells. Most of this intrusion was first laid to water encroaching around the shoe, but an analysis of the water from one of the wells shows it to be coming from the bottom of the hole—a very serious condition. Some of the wells showing a high cut, and the amount of the cuts follow: The Texas Company, Matern 2-7, 20 per cent.; Shell Company, Slusher 12, 20 per cent.; Bellview Oil Company, Grohs 2, 20 per cent.; Wilshire Oil Company, Buckbee 1-A, 32 per cent. (?), and the Star Petroleum Company, No. 2, five per cent. The last named is producing from the intermediate zone.

Production from the deep zone has reached 70,000 barrels from 20 wells. Drilling wells total 236, of which at least a dozen should be completed within a week.

Midway District

Taft, Calif.—The more critical areas have diverted the attention of several operators from the Midway district and fewer wells will be drilled during the next six months than earlier plans called for. The failure of the Republic Petroleum Company to get production in No. 32, Section 8-32-23, has been attributed to several reasons, but just why this well did not develop commercial production, while other nearby made good producers, remains a problem. At 4400 feet, the well showed hard sand and no oil or gas. Three other wells are drilling for the sand discovered early this year by the Republic Petroleum Company and these tests in widely separated areas should reveal something of the uniformity and extent of the formation. The Union Oil Company is drilling ahead at 2225 feet in W. P. 1, Section 27-32-23, while the Italo Petroleum Corporation has been able to correlate the formations found in its test on Section 26-32-23 with those logged in wells which are producing in the deep zone about three miles away.

Kern Front

Bakersfield, Calif. — The Texas Company has become one of the most active operators in the Kern Front field, having completed two small wells and located two more during the past week. The completed wells were Midlands 10 and Midlands 12, which came in with initial production of 200 barrels each. Both wells were drilled to 2025 feet. The company's new locations were Midlands 4 and Midlands 7, both on Section 14-28-27. Line wells only are being drilled and no extensive development program is anticipated.

Kettleman Hills Location Of General Petroleum

Coalinga, Calif.—The General Petroleum Corporation has entered the Kettleman Hills area with a bang, having located four wells on Section 20-22-18, and otherwise busied itself with preliminary plans for an extensive development program. The company controls a large acreage in the district.

Standard Oil Company has completed two rigs, one on Section 1, and another on Section 11-22-17.

Bolsa Chica Oil Corporation will locate another well in the district. The corporation's No. 1, Section 30-23-19, will be tested at 3500 feet before more hole is made. This organization controls a large acreage in the area and is expected to become more active during the coming year.

Other companies which hold large blocks of acreage and which are expected to become active within the next few months are Associated Oil Company, Doheny and Doheny, Thomas Petroleum Company, E. J. Miley Oil Company, George F. Getty, Inc., and several others.

Milham Exploration Company's Elliott 1, the discovery well, has shown a slight decline, but still is producing almost 4000 barrels of 60 gravity oil and upward of 50 million cubic feet of gas. The oil is being marketed as produced.

Santa Paula, Calif.—The Texas Company has completed Willard 8, in the South Mountain field, giving the area the first new production in several months. The well came in with an initial production of only 100 barrels, but the average decline in the field is so slow that producers yield consistently for several years.

Downey

Los Angeles.—The Rio Grande Oil Company has entered the Downey area, about four miles northwest of the Santa Fe Springs field and eight miles east of Los Angeles, having definitely located a wildcat test on the northeast quarter of Section 34-2-12. The Associated Oil Company is drilling a well about one mile southwest of the location selected by the Rio Grande Oil Company.

Los Angeles. — The Continental Oil Company continued its success along the outskirts of the Richfield field, completing Winann 1 as a commercial producer from 4500 feet. This company acquired several leases in the extreme western part of the field several years ago and has been very successful in the development of the deeper sands.

George W. Johnson has re-completed his outpost well, Davenport 1 with a new initial production of 200 barrels. The well is flowing irregularly and is considered an important completion.

Fruitvale Extended

Bakersfield, Calif.—An important extension to the Fruitvale field has been opened up by the Pacific Eastern Production Company, with the completion of No. B-6 as an 800-barrel producer. This well is located nearly a mile southeast of the discovery well and causes the field to take a definite northwest-southeast trend. To A. L. Marsten, independent operator, goes the credit of first finding oil in this immediate area, but there was some question as to the action of his first completion. The Pacific Eastern Production Company's new producer proves a considerable area in Sections 21-, 22-, 27-, and 28-29-27.

Associated Gets Another Well at Ventura

Ventura, Calif. — Associated Oil Company continued its success in the Ventura field with the completion of V. L. W. 5, which came in with an initial production of 1500 barrels from 7089 feet. The oil was 29.1 gravity and showed a cut of three per cent. The 4¾-inch oil string included 1000 feet of perforated pipe. Gas production was comparatively low, running under one million cubic feet. Associated Oil Company is drilling more than a dozen wells in the field, seevral of which are below 7000 feet.

Pacific Western Oil Company, newest entry into the Ventura field, by virtue of its acquisition of the Petroleum Securities Company's holdings, has been unable to complete Orton 5. The well was swabbed for two days from 7100 feet but failed to respond. A compressor will be installed to flow the well.

Chamber of Mines Holds Annual Election

Los Angeles, Calif.—The annual election of officers and directors of the Chamber of Mines and Oil will be held December 18. The following officers have been placed on the official ballot: R. A. Broomfield, president; Theodore Martin, vice-president; C. E. Olmstead, vice-president, and H. L. Westbrook, treasurer. The names placed on the ballot for directors for the ensuing year are J. C. Axelson, J. A. Brown, Chester W. Brown, J. A. Crawford, Earle Derby, David S. Ewing, D. S. Faulkner, E. B. Gilmore, H. P. Grimm, Edwin Higgins, C. S. Jones, Roy E. Collom, M. E. Lombardi, A. B. Macbeth, Herbert R. Macmillan, A. C. Mattei, John McKeon, A. C. McLaughlin, F. J. Miley, H. L. Payne, William Reinhart, F. C. Ripley, Robert Schurman and A. L. Weil.

Annual Christmas Party

Los Angeles.—The third annual Christmas Jinks of the Chamber of Mines and Oil will be held at noon, December 21, in the Sala D'Oro of the Biltmore Hotel. The affair formerly has been held at night and has been one of the most important functions for the California oil man held during the past two years. The Wildcat Committee of the Chamber of Mines and Oil is in charge of the entertainment and they have promised that it would be plenty warm. The chief aim of the committee is to see that nobody, old or young, goes away disappointed.

Derricks and Heights

By HARRY PENNINGTON
Mechanical Engineer

THE changes in general derrick design have been few in the past 15 years; due to heavier strings of casing being handled, and drill pipe, and to rigs capable of making a greater pull, derricks have been made heavier and for deeper rotary drilling, the height has been increased to one hundred and thirty feet, with a few to one hundred and sixty, or even somewhat higher.

The height of derrick is a matter of economy and safety. It is not the depth of well that should control height, but rather, the number of round trips out of the hole and back with drill pipe, for changing bits. Height of derrick may be figured on a diminishing return basis, in that when a certain height is reached, the additional cost of derrick more than offsets the gain in time, due to height.

In a locality where wells are say 3500 feet deep, and say 70 bits are used per well, meaning that 70 rounds are required, a 96-foot derrick may make a well at less total cost, including derrick, than a 112-foot derrick, but in another locality where a 3500-foot well requires 140 round trips to make, a 112-foot derrick might make the well more cheaply.

Pulling out trebles, using seamless drawn drill pipe, averaging 21½ feet per joint, a 3500-foot well has a maximum of 55 stands, set back in trebles; 42 stands setting back fourbles and 33 stands, five joints per stand. The average depth of well, however, in one-half the total depth and average number of stands is tabulated below:

Average stands of pipe, 3500-foot Well

Trebles 27½ Fourbles 21 Five 16¾

A time study of the operations in handling pipe, per stand, coming out of the hole and going in the hole, is given below, based on time gathered using four-inch drill pipe and with the drilling engine developing a maximum of 145 horsepower:

Time in seconds, per stand, coming out of the hole	Trebles	Fourbles	Five
Hoisting	45	54	68
Breaking out	12	12	12
Setting back	10	10	11
Lowering blocks	20	25	30
Total time in seconds	87	101	121
Changing bit	1200	1200	1200
Time per stand, going in hole			
Hoisting blocks, light	24	30	38
Lower pipe into hole	18	22	26
Make up tool joint	18	18	18
Total time in seconds	60	70	82

Time for one round trip, in minutes, total depth of well 3500 feet; average depth 1750 feet:

	Trebles	Fourbles	Five
In	60	70	82
Out	87	101	121
T'l seconds per stand	147	171	203
Min. per round trip.	67	60	56
Changing bits	20	20	20

Changing bits makes up the total time, although this time has no bearing on derrick height.

At the rate of $9.00 per hour, total cost of operating a rotary rig of the size required for 3500 foot wells, which is 15 cents per minute, we have the cost of handling drill pipe for the well as follows:

		Trebles	
Round trips per well.	50	100	150
Minutes	3350	6700	10050
Cost	$ 502	$1005	$1507
		Fourbles	
Round trips per well.	50	100	150
Minutes	3000	6000	9000
Cost	$ 450	$900	$1350
		Five	
Round trips per well.	50	100	150
Minutes	2800	5600	8400
Cost	$ 420	$840	$1260

Thus, handling pipe in fourbles cost $257 less, with 150 round trips, than handling the same pipe in trebles, and $247 less handling the drill pipe, five joints per stand.

These figures are taken from wells during drilling. Time studies generally taken, show that these rates are not exceptionally fast in present day drilling practice, although far faster than 10 years ago. Using twin steam engines, with steam at 175 pounds pressure from three boilers, these rates may be lowered somewhat as to hoisting time.

For instance, the time of dropping the blocks light, coming out of the hole, is not as fast as can be obtained. Crown and travelling blocks made with light running qualities and the latter reasonably heavy, are preferable, but the time shown is for an average roller bearing block. If the block drops in 12 seconds, handling fourbles, the difference in cost of a well requiring 100 round trips, 3500 feet deep, becomes a matter of $68.25 per well, and with 150 round trips, $102,37. Then, the fast blocks, with a life of 25 wells, set up a difference in their favor of even more than the blocks cost.

The foregoing time studies bear on Mid-Continent and Gulf Coast practice, where fewer lines are strung up than in California. Six lines would be considered the maximum number for good practice in the Mid-Continent and Gulf Coast, but not in California, where more lines are

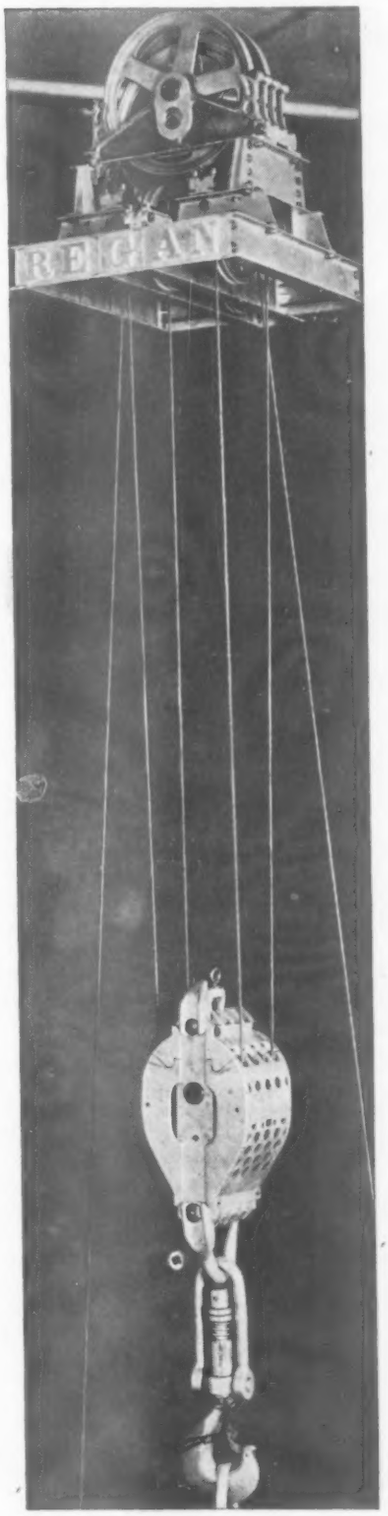


FIGURE 1
The newer type of crown block. By Regan.

used. The Mid-Continent and Gulf Coast method is faster, and has shown that it is perfectly safe.

The Crown Block

Height of derrick above the stands of pipe is usually 30 feet to allow for overrun of traveling block upward and for preventing side wear on the grooves of crown and traveling block. The older, current design of crown block separates the lines, so that it is not safe to run the traveling block up to the crown block, or "block-a-block."

The design of Figure 1, however, shows the newer type of travelling and crown block, rived with four lines that are just about perpendicular in all positions of the travelling block, which prevents side wear and removes danger when the blocks are run up close to the top.

This brings us to other considerations of equipment for handling pipe. With fast elevators, with a make and break rotary, with slips that do not slip, and with the pipe centered exactly in the rotary, and with a skilful crew, the difference in time required to hoist out and set back 3500 feet of pipe, in three, four and five joint stands is not of great importance as shown by the time study calculation, for these devices and a skilful crew make up and break out pipe very fast, and the necessity for excessively high and expensive derricks, as a matter of economy, is materially reduced.

Hoisting pipe is a matter of power applied, and there is no substitute for power. It is true that 50 horsepower will handle the pipe and get it out of the hole and back, but 100 horsepower will handle it twice as fast, and 200 horsepower, four times as fast, with greater flexibility.

The power required for starting a string of pipe upward is approximately twice the power required to continue lifting it, and the load of pipe, in starting it upward, is therefore, approximately twice the weight of pipe, as shown by tests on the derrick floor, as well as tests in other hoisting operations.

The load starting power of a steam engine—that is, the initial starting torque—is usually thought greater than the torque of an internal combustion engine, and it would appear that steam engines would handle pipe faster, due to this greater initial torque. But, an internal combustion engine has a flywheel, whereas, twin steam engines have none, and the rotating energy of this flywheel, when applied to pipe by means of a friction clutch, sets up the necessary high torque required for starting pipe upward.

The high starting load of pipe in the hole being lifted is due to friction of pipe against the well wall, which is greater or less according to the verticality of the hole, of the starting friction of the rig, and of the inertia of the pipe, as well as of the rig, which must be overcome to start the load upward.

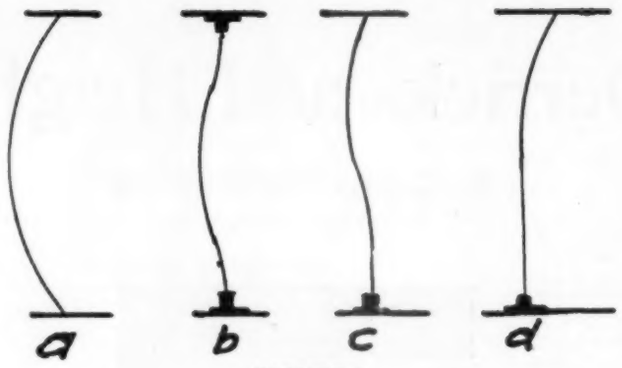


FIGURE 2
Column deflection as affected by fixity of ends.

Drilling Time

A comparison of the drilling time of wells is interesting, shown below:

	Feet	Drilling days	Hole per day
Tonkawa	3000 set 8"	40	75
Powell	3000 set 65/8"	20	150
Seminole	3800 set 8"	60	63
Lytton Sprs.	1200	5	240
Wichita Falls	1700	20	85
Gulf Coast	3750	25	150
Signal Hill	4500	120	37½

The difference in drilling time is due to harder drilling and larger diameter holes of some wells than others. The shallow drilling at Lytton Springs, where numerous wells were made in even three days, and in which only a very few round trips were necessary, due to soft digging, 96-foot derricks were used, but here, the height might have been reduced with economy.

To be sure, the number of tool joints is increased in the lower derricks, according to the number of stands of pipe used, and with lower derricks, tool joint expense increases due to the greater number. This expense additional due to lower derricks should be considered, also, and it is a matter of round trips necessary to make a well, which bears on the height of derrick.

Assuming a useful life of 15 wells for a set of tool joints, the additional expense of tool joints for a 96-foot derrick, compared to a 112-foot derrick, is $16.00 for four-inch and $20 for six-inch joints.

But, as a matter of fact, using a tool joint on each joint of pipe is good practice. The delays of setting back a double, a treble, then making up a fourble, with one tool joint per fourable, are considerable, as a whole; full tool joint equipment does away with considerable pipe handling.

Derrick Legs Wood

These may be treated as columns of a length equal to the distance between girts because girts and braces divide the leg into short length columns.

Girts and braces may be treated as ties and struts, for these should carry no part of the loading of pipe, but should be relied on only for supporting the leg columns against flexure, and it is assumed that the leg columns of wood derricks are securely and rigidly braced by having the girts and braces thoroughly, carefully and liberally nailed in position, with accurate end fitting.

There are many column formulae; the ideas of engineers differ materially about wood columns, but the same general basic formulae apply to columns of all kinds, and here it is, by Prof. Rankine.

For flat ends, fixed in direction

$$f = \frac{c}{1 \text{ plus } a \frac{1}{r}^2}$$

For round ends, direction not fixed, multiply a by 4.

For hinged ends, position but not direction fixed, multiply a by 2.

But the Rankine formula is laboriously used, and the straight line formula has come into use, based upon Rankine:

f equals $16{,}000 - \frac{1}{r}$ for steel columns with corresponding variations for wood.

The four conditions affecting the method of fixing the ends of columns are shown in Figure No. 2. At a, the column ends are fixed in lateral position, but not confined, so that the ends can turn about the points when the column flexes. This is the standard case, assumed in column formula, where L is the total length of unsupported column.

At b is a column fixed at the ends to maintain both the position and direction. In this case, it is obvious that the column must take a double flexure, which, of course, allows a greater permissible load than a. The L, here, of formula is one-half the unsupported length.

At c, one end is fixed in position, and the other end fixed in position, but not direction. The L, here is two-thirds the unsupported length.

At d, the lower end of the column is fixed in position and direction, but the upper end is free to move laterally. This can occur, in a derrick, only in an extreme case, in a single leg, and is given to show the relative columnar strengths, although the whole derrick, considered as a column, is subject to this formula. The L in this case is the actual length of column.

Thus, we can see that fixity of the ends of columns has a great bearing on strength developed by the column, and, where girts and braces are fastened to the column, a careful design, to secure maximum fixity of ends, to conform to the foregoing case of b, for the column length in a derrick, as before stated, is the distance between girts.

However, only the case of a should be used, in which L is the unsupported length, and the additional strength secured by design to conform with case b makes for safety against unusual stresses.

Even a casual inspection of Figure 2

shows that derricks may be improved in strength, particularly at the top and at the bottom of the legs, by providing greater fixity of ends. The point of failure in pulling frozen pipe, is mostly at the water table, next at the base of legs, then at intermediate points, as indicated by tabulation of many derrick failures in wood designs, while steel derricks fail intermediate the top and bottom.

Weight of Derrick

Weight of the derrick and its load is carried from the lower ends of legs into the sills, and the load per square inch that tends to crush the sill across the grain, may be figured. Area of leg section is that of four 2 x 10 pieces, or eighty square inches. Crushing strength of dry long leaf yellow pine is shown above at 1413 pounds, and with a safety factor of two, using dry lumber, the total permissible load on the sills, set up by the legs resting thereon, becomes 56,480 pounds per leg, or 225,920 pounds for the four legs.

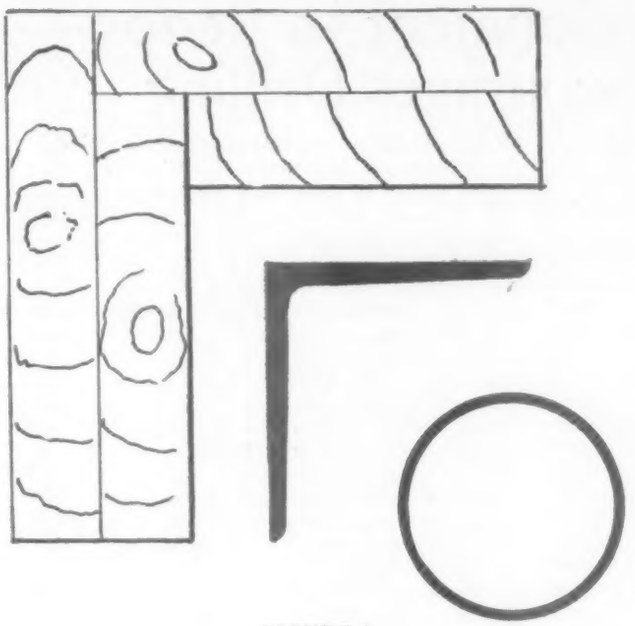


FIGURE 3

For deep wells, where the loads on derrick set up by starting heavy strings of pipe upward, exceed the above total, it becomes necessary to fit the legs carefully on to the sills, to see that the whole area of leg is placed with an even bearing on the sill, or, in other words, that the legs are sawn at the correct angles to secure a firm bearing all the way around on the sills.

The permissible load, using green lumber, of legs on sills, with the same safety factor of two, is 78,720 for the four legs, which is entirely too small a load capacity nowadays, from which we gather that only well seasoned and dry derrick sills should be used.

The effect of moisture on the strength of lumber, on the stability of foundations, the effect of fungi of various kinds, or rot, with reference to preservation of lumber may be mentioned in connection with surface protection.

Paint can prevent moisture from soaking lumber, and can prevent rot, particularly in the joints. Derricks have never been painted as a practice, but the use of a red mineral paint surely is worth its cost where wood derricks are to be used for any length of time, and for holding the salvage value of derricks up.

Steel derricks are amply protected by galvanizing, which is excellent practice.

The difference between a built up wooden column and a steel angle or pipe column is in the radius of gyration. The relative size of a wooden derrick leg and a steel derrick leg of the same strength is shown in Figure No. 3. In this figure, we can see that the wood column has the material placed further from the neutral axis than in the steel column. Then, for a given compressive strength, a wooden column, due to its greater bulk, will develop more strength than a steel column, which adds to the safety of wooden derricks. .

This is not to say, however, that steel derricks are not best, for the writer believes that with present greater depths, and with still greater depths to come, the only solution of a high, strong derrick design is by the use of steel, or steel and wood.

And, in the interest of steel construction, and as a user of steel and wooden derricks, I shall freely discuss the points of both steel and wood.

Steel derricks weigh about one-half as much as wood. If made equal with the weight of wood, steel derricks would be much stronger. But competitive conditions of steel with wood, and of steel derricks with steel derricks, do not allow putting in any more material than necessary, and designs are trimmed closely.

Dry yellow pine, fabricated into a derrick costs about six cents per pound; structural steel fabricated into a derrick, can be had for five cents per pound.

Aside from derrick design, and construction, field practice as to lumber used —yellow pine and Douglas fir—is not such that a derrick will either develop computed strength or that the derrick will have a useful life commensurate either with the cost of material erected, unless the lumber is seasoned.

Green lumber has no place in derricks where life and property depend upon it.

The Yellow Pine Manufacturers Association has included in its manual on yellow pine, the following figures from the Forest Products Laboratory:

	Long Leaf	Short Leaf
Static Bending:		
Fibre stress or elastic limit		
green	5,090	4,360
dry	10,040	7,780
Modulus of rupture		
green	8,360	7,710
dry	14,300	12,120
Compr. parallel to grain		
green	4,280	3,570
dry	8,140	6,380
Crushing strength		
green	491	400
dry	1,413	926
Hardness. Load in pounds required to imbed a .44" dia. ball half its dia.		
green	574	....
End dry	924	....
Radial—		
green	502	....
dry	740	....
Tangential—		
green	521	....
dry	856	....

These actual tests show that lumber shipped and used green has about one-half the strength of lumber used after proper drying. Even after mill drying, water soaked lumber loses its strength.

If a derrick built of green lumber is strong enough, then dry lumber permits reducing the sections for economy.

The cost of green and dry lumber varies but little at the mill, but freight on moisture is of some consequence in the cost of a derrick, and green lumber, delivered, costs more than dry lumber.

If we use green and dry lumber both, in the same derrick, the green parts will be half as strong as the dry.

It seems practical, and it certainly would be good business, not only on the part of the oil industry, but also of the lumber industry, to use only dry lumber.

The quality of lumber is fairly well indicated by its weight, denser wood being stronger, naturally. The Forest Products Laboratory has derived a formula from tests for density:

Dry—modulus of rupture equals 26,000 x (specific gravity) 1.20;

Green—modulus of rupture equals 18,-500 x (specific gravity) 1.20.

The number of rings per inch and the relative proportion of summer wood in the annual rings forms a gauge of the strength—summer wood being denser and heavier than spring wood.

There is also, relative growth, which gives greater density to certain species:

	Rings per inch
Long leaf pine	10
Short leaf pine	12
Loblolly pine	6
Douglas fir	24
Redwood	30

On this basis, there is no material difference between long leaf and short leaf pine, with equally good manufacture.

Density of lumber, from Bulletin 556, Forest Service, is given as follows:

Long leaf yellow pine	40
Short leaf yellow pine	36
Douglas fir	30
Redwood	23

The figures quoted as to strength of timbers, appears to agree with actual results. The laboratories used for obtaining the data are well equipped, and tests made elsewhere agree, with fair regularity.

Wildcat Development in Pecos County Encourages Drilling

SAN ANGELO.—Pecos County is in line to retain its popularity with wildcatters after having enjoyed more wildcat drilling within the past year than any other county in West Texas, as result of a successful completion and favorable oil and gas showing in tests drilled to the 1600 and 1900 foot pays. The spectacular performance of the shallow lime in the Yates field has spurred the small operators on in the search for new pools, and a few weeks ago the Pecos Valley Oil Company's wildcat test established a new pool in the northwest part of the county, while during the past week Geo. H. Anderson and Associates' University 1, began showing favorably for a commercial well with a flow of 3,000,000 feet of gas and spray of about 10 barrels of oil daily at 1962 feet. A string of five-inch casing is on the ground to try and case off water encountered above.

On a line between this wildcat and the Yates field, a wildcat test on the Sellman-White Ranch recently showed for a small well before drilling into water.

Great differences in lime tops on offset tests in the lower end of the Hendrick field and the O'Brien pool have resulted in operators starting an investigation to determine if the holes are crooked. A fairly accurate determination is gained by lowering a glass bottle partially filled with acid into the hole at measured depths, and calculating an angle of the line etched on the glass. Gulf Production Company's Cowden 2 was given the acid bottle test, and the engineers in charge reported that the rotary drilled hole is 40 degrees off vertical at the 2200 foot level. The actual depth of the hole when tested was 2980 feet, but when corrected to vertical, based on the acid bottle tests, would only be 2666 feet, thus accounting for difference of 314 feet.

The fourth completion for the Llano-Daugherty pool, located in north Winkler County, was made during the past week when Atlantic Oil Producing Company and Kessler-Logan's Daugherty 2 tested 600 barrels daily, with 10 per cent. cut oil, from regular lime at 3143-62 feet. Amerada Petroleum Corporation recently completed an east offset to this producer that showed 70 per cent. cut oil. Prairie Oil & Gas Company's Daugherty 1, located on the south end, topped the lime at 2685 feet, and Shell Petroleum Corporation and Danciger's Daugherty 1, located to the north of production encountered the lime at 2742 feet, while Empire Oil & Gas Company's Daugherty 1-B located to the east of the latter test, logged the lime at 2821 feet. The trend of production will probably be determined upon completion of the latter three tests, while in the meantime new work is at a standstill.

The Pecos County well of Geo. H. Anderson, San Angelo operator, and associates on University land is located about 18 miles due west of the Yates field, and near the center of Section 11, Block 17. It developed a show of gas at 1320-25 feet last April, and sulphur water at 1770-90 feet. Operations were suspended early in May at 1880 feet, but when the crew resumed operations early in December a quantity of oil was in the hole. Deeper drilling resulted in a flow of about three million cubic feet of gas and a small spray of oil with water at 1932-38 feet, after setting six-inch casing at 1900 feet. A string of five-inch is to be run to make a test of the lower pay. This wildcat logged the top of the salt at 1030 feet, and the top of the lime is placed at 1715 feet by some geologists, while others claim 1760 feet, with a surface elevation of 2801 feet. Alexander-Lyles et al's Sellman-White 1, Section 20, Block "Z", located about mid-way between the above wildcat and the Yates field, recently developed a good flow of gas with spray of oil, but struck sulphur water when deepened to 1652-56 feet. Operations have been temporarily suspended on this wildcat.

Texon Oil & Land Company's University 1-B, Group One, Big Lake field, continues to gain in production from pay at 8500-23 feet, and during the 24-hour gauge ending Monday morning flowed 952 barrels of 53 degree gravity oil and 11,900,000 cubic feet of gas. This is the deepest drilled hole in the world.

Potential production estimates released by Ed. A. Landreth, chairman of the Winkler County proration committee, on December 15 credits the three pools with a flow of 2,636,483 barrels from 447 wells on 202 40-acre units. The potential was increased slightly more than 3,000 barrels during the first half of December despite the completion of a number of unusually large producers in the mid-section and south end of the Hendrick field. More than a score of new producers were added during the last period.

Dallas, Texas—Employes in the general offices of the Magnolia Petroleum Company here have been notified that work will be suspended from noon December 22 to the morning of December 26, thus giving three and one-half days for Christmas.

Salt Lake City, Utah.—It is expected that the public utilities commission of Utah will take action in the very near future concerning the request of interests identified with the Ohio Oil Company for a certificate of convenience and necessity to lay a gas pipe line from southern Wyoming to Salt Lake City, Ogden, and other Utah communities, and thence into Idaho, to supply all municipalities with natural gas for domestic and industrial consumption.

Storage Withdrawals in Texas Panhandle Halted in November

Amarillo, Texas.—United Eight Oil & Trust Company's semi-wildcat test in the west central part of Gray County began flowing 275 barrels daily late last week from top of pay encountered at 3251 feet. This test is located in the southeast corner of the W½ SW¼ of Section 177, Block B-2, H. & G. N. survey, and about seven miles southeast of Kingsmill. A heavy gas flow from the upper lime, and a spray of oil in granite wash at 3022-40 feet was cased off. Storage and pipe line connections are being provided to proceed with the completion of the test, which appears to be on the south flank of the submerged granite ridge.

A half dozen tests are in process of completion around the Skelly Oil Company's trio of producers on the Armstrong-Byrd ranch, which straddles the Moore-Hutchinson County line. Phillips Petroleum Company's J. T. Sneed-James 1 failed to come through with the usual sized producer after drilling through lime pay at 3148-81 feet to 3192 feet, and has been given a shot of 80 quarts at 3148-80 feet. This test was credited with 1500 feet of oil in the hole before being shot, and at last reports was removing bridge. Dixon Creek Oil Company is drilling in two tests on nearby leases, while Skelly, McMan Oil & Gas Company and Devonian Oil Company have one each nearing the oil horizon. Skelly Oil Company's three wells averaged 2995 barrels daily during the past week, or 998 barrels per well.

Withdrawal of crude stocks in the Texas Panhandle district was almost halted during November after registering heavy declines during the previous months. At the close of the month total stocks were reported at 15,718,250 barrels, representing a decrease of 55,710 barrels, while during October stocks were reduced 476,540 barrels. The district averaged 63,400 barrels daily production during November from 1480 wells, and the three major pipe lines serving the area pumped oil to distant markets at an average rate of 43,180 barrels daily, or less than one-half their combined rated capacity. Natural gasoline production failed to continue its usual gain, and during November a total output of 12,522,300 gallons were manufactured.

Mixing Device Removes Guess Work From Well Cementing

Proper protection of both casing and strata to be sealed off requires mixing and application knowledge which approaches an art

By GALE B. DeWITT
Petroleum Technologist

ONE of the most interesting as well as important field problems has been that of cementing oil wells. The problem was given particular attention at the fall meeting of the Texas-Louisiana Division of Development and Production Engineering of the American Petroleum Institute in Galveston last September.

Following this meeting an article entitled "Cementing Oil Wells" was written by Harry Pennington, mechanical engineer and formerly chief engineer of one of the larger oil companies, and published in the October 19th issue of The Oil Weekly.

This article prompted the accompanying discussion which has been prepared by Mr. Gale B. DeWitt, Petroleum Technologist, who has been engaged in this particular work for several years.

MUCH has been written regarding methods of cementing wells, water-cement ratios employed in mixtures and chemical action cement undergoes while setting. Briefly the oil operator is interested only in the fact that the cement must be properly placed in his well to effect the following advantages:

1. To provide a permanent and safe casing seat regardless of formation.
2. To protect casing against external pressures.
3. To prevent corrosion by keeping highly mineralized fluids away from casing.
4. To prevent shifting formations by forming a tight seal between wall of hole and casing.
5. To form a permanent dam against upper strata so that there can be no migration of fluids from one stratum to another.
6. To protect casing when shooting—without the necessity of lifting it 300 to 400 feet as ordinarily required.
7. To bring gas blowouts under control.
8. To make it possible to set casing any distance from bottom, even though gas pressure is present.
9. To control flow of gas when gas is used to stimulate production of oil, and effectively kill gas wells too wild to be brought under control.
10. To allow pulling of extra strings of casing, particularly important in cable tool holes.
11. To repair leaky casings.
12. To form an absolute and everlasting protection from upper water.
13. To form absolute an everlasting protection where bottom water is encountered.
14. To protect surface casing from high pressure gas and allow the controlling of wild gas wells.

Proper Mixture

From the primitive practice of mixing cement in a mortar box, the ordinary mechanical batch and the continuous contact mixer there has been developed the continuous jet-vacuum mixer, the advantages of which are numerous.

It is reasonable to believe and from practice we know, that in order to mix cement to a proper liquid consistency it is necessary that each individual particle of cement be surrounded by a thin film of water to the extent that the film of water would serve to separate the particles of cement from each other. In this state the cement is said to be in solution.

The Jet-Vacuum Mixer

The jet-vacuum mixer uses as a mixing means a stream of water, which under normal operation travels at a speed of about 300 miles per hour. This stream or jet is directed through a so-called vacuum chamber creating a vacuum which draws in cement proportional to its velocity and volume. This dry cement comes in contact with the stream of water and is mixed in a zone of restricted area as compared to the vacuum chamber proper. In other words the velocity of the stream of water regulates the vacuum so as to apportion the amount of cement to the volume of water passing through the mixing chamber.

The jet-vacuum mixer is provided with a by-pass that conducts an additional high velocity stream of water around the vacuum chamber into the mixing chamber proper that is used to add additional water to the cement being mixed. The by-pass is equipped with control valves with which the water-to-cement ratio is varied at will. Various contact mixers in use have no means of constantly controlling the proportion of water to cement in their mixtures, and, therefore, the water-to-cement ratio of their mixtures could not be uniform.

Porosity of Cement

The cement particles are porous and contain air. In most ores from which cement is manufactured the particles of cement have a porosity of about 65 per cent. The mass of dry cement also contains air in the voids between its multitudinous particles. The air contained in the porosity of the particles of cement and in the voids of the mass of dry cement more readily responds to the action of the vacuum created by the high velocity stream of water than the cement itself, and as a result approximately two-thirds of the air contained in the pores of and the voids between the cement particles proceeds in advance of the particles of cement themselves, which causes this thin film of water to be spread around each particle of cement under less than atmospheric pressure and usually under normal operation a vacuum of 22 to 24 mercury inches. It can readily be seen that a light film of water can more readily be absorbed by a particle of cement when the air has been removed from its pores, and of course, it is necessary that the film of water be absorbed by the particle of cement in order that the particles can come in contact with each other and permit cohesion, for unless all of the film of water is absorbed by the particles of cement the water which is not absorbed forms parting planes between the particles and causes imperfect cohesion.

Removing the air from between the porous particles of cement and permitting larger quantities of water to enter therein causes the mixture to become a heavier mass, and, therefore, causes an increased affinity of each particle for the other as a result of the increased capillary attraction of one solid body to another.

This capillary attraction can be illustrated by barely allowing a corner of a sugar cube to come in contact with liquid coffee. The coffee will slowly advance upward, contrary to the laws of gravity, until it fills all of the voids between and the pores of each granular particle thereof. In this illustration the air is easily driven from the voids between the sugar grains as well as from the pores of the grains through the action of the advancing water, whereas the air is removed from the voids between and the pores of the cement particles by means of a vacuum as hereinbefore described. The necessity of the latter is due to the fact that capillary action in the cement is taking place when the cement is submerged in a well wherein little opportunity is offered for the displacement of air by the water.

The air drawn from the voids between

and the pores of the cement particles escapes from the mixture as it passes into the suction box from which it is pumped into the casing. This is evidenced by the boiling action of the mixture in the suction box.

It can, therefore, be logically concluded that a cement mixture derived from the jet-vacuum mixer would be more homogeneous than a mixture secured through contact agitation in which the air is permitted to remain in the pores of and the voids between the particles of cement, for in the latter mixture the air would seriously interfere with the chemical action necessary for the cement to undergo to effect a homogenous mass.

When the film of water surrounding a particle of cement, through capillary action, penetrates its pores to the extent that there is a direct contact between the separate particles (the film of water having sufficiently left the surface of the particle) the initial set is effected. It is, of course, necessary that the body of cement remain inert immediately before and after this action occurs. When the film of water thoroughly penetrates the pores of the particles of the cement a permanent set is realized. Crystallization next sets in concluding the chemical action undergone by the cement in setting.

It is evident, therefore, that a mixture, wherein the air is not removed from the porous particles of cement, could not set perfectly for reason that the air contained in the pores of the particles would, to a certain extent, prohibit the water's entrance into the innermost recesses of the porous particles. As a result the cement could not set in a homogeneous mass.

Water-to-Cement Ratio

Through exhaustive tests it has been proven that the proportion of water to cement ranges from 40 to 55 pounds of water to 95 pounds of cement, depending on the depth and condition of the well being cemented, except the first portion of the batch as hereinafter explained. This mixture is highly satisfactory, it having proven its practical value through the cementing of many thousands of wells with failures running less than one-half of one per cent. and these failures being due to mechanical and underground difficulties existing at the well. It is very evident that the same results could not have been obtained through the use of other types of mixers.

Cementing the Well

The casing is raised several feet from its intended seat and circulation established. The mud fluid is tempered and equalized, after which the pump is stopped, the casing head is removed and what is known as the bottom plug is placed in the casing. This plug consists of a wooden structure with flexible discs at either end that largely prevent the dilution of the cement by the mud fluid or water contained in the well. The casing head is reinstalled and the cement pump connected thereto.

As it is being continuously mixed the cement is pumped into the casing, forcing the bottom plug down ahead of the column of cement and behind the column of mud fluid, the first portion of the batch being of high water-to-cement ratio for reasons hereinafter explained. As the plug travels downward it effectively seals off the casing and keeps the cement and mud fluid separated. The mud fluid is forced downward around the lower end of the casing and back up through the space between the casing and the wall of the hole.

After a sufficient amount of cement has been pumped into the casing, the casing head is again removed to permit the insertion of the top plug. Under ordinary circumstances, when there is a large amount of cement in the casing which is partially balanced by the mud fluid on the outside, the cement being much heavier than the mud fluid, a vacuum is formed in the casing. As a result, upon the removal of the casing head, the cement proceeds downward forcing the column of mud fluid up around the outside of the casing until a balance is reached. This leaves the upper portion of the casing empty.

The top plug, a wooden structure with flexible discs at either end, the top disc being reinforced with a leather cup to provide a more solid surface, is inserted. It is erroneously claimed by those who have never weighed the facts logically, that, when the top plug is inserted in the casing, leaving a column of air between the top plug and the receded column of cement, the upper part of the cement column, that will eventually be left around the casing shoe, will be porous. This is contrary to fact as will be hereinafter shown.

The casing head is again screwed into the top of the casing and the stuffing box assembly for the measuring device line screwed into the top of the casing head.

Measuring Device

Among other parts, the measuring device consists of a round high tensile strength plough steel wire line .006 inches in diameter. This line is wound around an ordinary measuring line reel. After leaving the reel the line passes entirely around a sheave which is coated on the outside with an extremely hard metal. This coating eliminates the possibility of any perceptible wear on the measuring member. The measuring member is of such diameter that when the line is drawn taut around it, each revolution of the sheave passes exactly two feet of line. An automatic counter registers each half revolution of the measuring member, *i. e.* counts each foot of line as it passes around the sheave. Two adjustable retaining wheels that maintain a slight pressure on the line are provided to prevent any possibility of the line slipping on the sheave. The measuring member is counterbalanced in such a manner that it can swing back and forth horizontally and thus remain at all times in alignment between the well and the point at which the wire is leaving the reel. On leaving the measuring sheave the line passes over a grooved sheave supported by a swiveled shaft and thence through the stuffing box that supports the staff, and through various fittings into the casing. Before screwing the stuffing box assembly into the casinghead a 20-pound brass jacketed measuring line weight or bob is fastened to the end of the line.

Pump connections are now made. The measuring line weight is resting on the reinforced disc of the top plug. The measuring device counter is adjusted and the pump started. The mud fluid entering the casing on top of the top plug drives the top plug down through the air column to the top of the column of cement at such a terrific speed that only one who is skilled in the use of the measuring device can follow its course accurately.

Air in Casing Dissipated

But what becomes of the air that existed in the casing between the top of the column of cement and the top plug?

To follow the facts in their logical course we will take a hypothetical case wherein we will assume that we are cementing a well 4000 feet deep, and we have a 300-foot column of air between the cement and the top plug. Fifteen pounds pressure or two atmospheres will concentrate the air to twice its original consistency, thereby leaving an air column of only 150 feet. Experience has proven that when sufficient fluid has been pumped in on top of the top plug to permit a pressure of 15 pounds per square inch that this fluid drives the plug down through the column of air, causing the air to pass the plug and up into the column of mud fluid, the plug assuming a position on top of the column of cement. By the time the plug has been forced to the bottom of a 4000-foot well this column of air has been concentrated approximately 150 times, and, if there were no condensations, the volume of air would be measurable, but when we consider the condensation as a result of the air coming in contact with the mud fluid and in view of the fact that the heat is not concentrated, experience has proven that the column of air is dissipated.

Follow the Plugs

The top plug now being on top of the column of cement, its downward speed will be greatly reduced. As the column of cement passes down the casing, its exact location being reflected at all times by the measuring device, the center of the column travels faster than the outside of the column or that portion next to the wall of the casing, this being due to friction along the wall of the casing and being known as turbulation. This turbulence has a grading effect on the cement, causing the lighter particles thereof to raise to the top of the column, as well as any excess water that is used in mixing.

As the lower end of the column of cement reaches the bottom of the casing the bottom plug passes out of the casing a few inches, affording sufficient space between the plug and the casing shoe to permit the cement to pass out of the casing and upward around the outside. Owing to its lighter weight, the mud fluid, without any separating barrier, is forced upward ahead of the cement.

It will readily be seen that on leaving the casing the bottom plug, that has

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Say you saw it in The OIL WEEKLY

passed into a section of the hole that has no outlet for the fluid ahead of the plug, will be forced to stop and no cement will pass beyond this point. A small amount of cement may settle below the plug owing to its greater weight. But should any settle below this point it would be a very small amount and could be neglected in making calculation.

Adherence to Wall of Hole

The first portion of the cement batch, being thin or of high water-to-cement ratio, in its upward advance behind the pipe, cuts the mud plaster from the well wall, whereas the use of water alone to effect the same results would probably cause the hole to cave. The value of removing the mud plaster from the well wall is apparent in that it permits the cement to have direct contact with the wall itself, effecting a tight bond between the casing and the well wall.

The relation between the size of the hole and porosity of formations is important. Sufficient space between the casing and the well wall must exist so that a plastering sheath of cement can be built upon the wall so as to seal porous formations and still leave an opening for liquid cement to pass upward behind the pipe. The wall of a hole has, to a certain extent, a jagged porous surface. The jagged and porous well wall not only is benefited by the plastering sheath of cement but it in turn offers a more extensive surface to which the cement can adhere than would exist if the well wall was smooth. This condition greatly enhances the chances for an effective tight bond between the casing and the well wall. Of course, with a greater contact surface, we can readily see the possibilities of a more firm fidelity of the cement to the wall of the hole.

Cement Properly Placed

As the cement is being pumped around the casing shoe and upward behind the pipe it is advisable to lower the casing slowly down toward the point of its final resting place.

As the measuring device reflects that the column of cement is traveling downward we should keep in mind that the turbulated substance that raises to the top of the column of cement and underneath the top plug seldom sets with sufficient strength to be effective, and therefore, should be left within the casing by stopping the pump before the top plug reaches the bottom of the casing. Forcing this so-called wash cement, which seldom reaches a solid set, up around the shoe may cause damage later to the shoe joint when drilling the well deeper, by the drill tools actually dismembering the shoe joint from the rest of the casing. On the other hand if the top plug is left 20 feet or more above the casing shoe, depending upon the depth of the well and amount of cement used, the best portion of the cement would be left around and above the shoe joint, thereby imbedding that member in such a manner that later action of the drilling tools would not be damaging. Should the top plug be pumped down to a depth where it comes in contact with the bottom plug, the light substance immediately underneath the top plug would be distributed around the shoe joint. The use and proper application of the measuring device removes any danger of this occurrence.

The measuring device now reflects that the top plug is nearing the desired point. The increased laboring of the pump indicates that the increasing column of cement outside the casing is becoming steadily heavier than the diminishing column on the inside of the pipe. The pipe is being worked downward, not only to bring it nearer to its final seat, but also to eliminate possibility of the cement channeling at any point behind it. The cause of channeling is due to a crooked hole in which it is impossible for the casing to be hanging directly in the hole's center.

A crooked hole is largely caused by the driller permitting too much weight to rest on his drill bit while drilling. It is difficult, however, for the driller to maintain an even weight on his drill bit due to abrupt changes in formations being encountered. The solidity of different formations vary radically. This unfavorable condition is now being eliminated through the use of the drilling control, which maintains at all times the proper uniform weight of the drill bit that is essential to drill a straight hole. The use of this device is attracting considerable favorable attention from the operators and its use is bringing to us straighter well bores.

When within a few feet of the final depth at which the plug will be placed the pump is slowed down to where it is barely moving the top plug. This eliminates danger of pumping the plug, and the cement under it, too far. It must be understood that we are not rotating the pipe as it is being lowered or at any time during the completion of the cementing job. Inasmuch as the casing is nearly as large as the well bore, and, if it can once be lowered into a crooked hole to the desired depth, it would be very foolish, indeed, to rotate, especially when rotating does not materially assist in the cementing operation. In rotating casing that is nearly as large as the well bore, great danger exists in twisting the string of pipe in two.

The measuring device now tells us that the plug has arrived at the proper depth. The pump is stopped. The casing is now lowered easily, not spudded, to its final resting place.

Danger of Spudding Casing

In some fields wherein soft formations are found spudding the pipe into its seat is practiced by a few operators. It is true that a tight seat will be formed thereby, but the chances taken in junking the hole are great. A collapsed string of pipe could easily result from this practice. Spudding pipe also removes the possibility of placing any neat cement around the casing shoe where it is most needed. Spudding practice should be discouraged. In a well, wherein the proper method of cementing is employed, the casing needs no formation seat. In fact in 50 per cent. of all wells being completed the casing is being suspended off bottom, the necessity of finding a seat being eliminated through the use of the measuring device in connection with cementing casing as herein outlined.

As the casing is lowered to its final resting place the collar at the top of the shoe joint, acting as a washer, and assisted by the weight of the heavy column of cement above, forces the cement under it down into a more solid mass, driving the heavy mixture farther back into the formations adjacent to the casing seat, the increased pressure resulting therefrom being held at the surface in a manner hereinafter explained. Thus an unbroken ring of cement is distributed entirely around the pipe, creating a tight bond between the casing and the well wall.

Measuring Device Detects Leaks

The measuring line should be held on the plug for a few minutes before it is removed from the well. During this few minutes interval the pressure being exerted on the plug from the surface is constant. Should any small leaks exist in the casing, fluid within the pipe would migrate through the leaks to the space between the casing and the well wall. This occurrence would reduce the pressure within the casing, causing the column of cement to flow back around the shoe from the space between the casing and the well wall into the casing, forcing the plug upward. Any such occurrence would be noted on the measuring device and immediate steps taken to correct the defect.

The measuring line is now pulled up through the gate valve and the gate closed. Considerable skill is required to see that the cement does not back downward around the casing, forcing itself upward inside. Practically all the cement being on the outside and the mud being inside the casing the tendency is for the cement to back up, owing to its greater weight. At times it requires several hundred pounds pressure to hold the cement while it sets. This is accomplished by closing the high pressure valve on the casing head at the top of the casing, or by the use of a back pressure valve at the bottom.

The measuring device eliminates guess work and its use involves the consumption of very little extra time. It reports to you instantaneously the progress of your column of cement as it is being pumped down through the casing. It detects the presence of small leaks as hereinbefore explained. Should a large leak, such as a split joint, exist in a string of casing being cemented the progress of the top plug would slow up, or, if the leak was of sufficient size, the top plug would stop just below its level. The exact location of such a leak would be immediately determined by the measuring device and necessary steps could be taken to either remove the defective joint of pipe or repairs could be made by cementing off the leak, depending on the seriousness of the defect as determined by the person in charge of the well.

The value of the measuring device can readily be seen by all practical operators and it is, therefore, sufficient to say, that without the advantages gained through its

use, great danger would exist in possible failure of placing the cement in a solid column where it is most needed. It is a well established fact that the value of the measuring device is indispensable in the art of cementing wells.

Old Casing Protected

It might be added here that only those who have had broad experience with the measuring device fully realize the story told through its use in regard to comparing good with old worn out casing. If it is possible to successfully cement a string of old casing wherein the measuring device is used and wherein sufficient cement is used, then the casing has stood the test that is necessary for it to stand for it to last indefinitely in the particular well in which it has been inserted. Should any ruptures occur in a string of casing, the measuring device would be the means of their discovery where other methods might fail, the discovery being made before it is too late to take remedial action.

Conclusion

The preceding description of cementing an oil well only covers a hypothetical case. In actual practice each cement job presents a different problem. The use of the mixer herein mentioned makes possible the continuous mixing of 1500 sacks of cement per hour—25 sacks per minute, and as continuously the placing of this homogeneous mixture in the casing. Pumping the cement down through the casing, around the shoe and up behind the pipe to the desired location requires but a few minutes time. It is possible to complete a 1500 sack job in one and a half hours.

The measuring device eliminates all guess work regarding placing the cement properly. The jet-vacuum mixer plus the measuring device have been the means of reducing the cementing of wells to a science, the general knowledge in the industry of which is broad. This phase of well drilling is keeping step with the many improvements being made in drilling machinery and methods of operation so necessary in coping with the ever increasing need of the successful exploration of deeper strata.

It can be truthfully said, therefore, that cementing wells has developed into a scientific art that occupies a special position in the oil and gas industry, and, it quite naturally follows that this work should be entrusted only to the skilled oil well cementing engineer, who is assisted by skilled labor and efficient equipment.

Proposed Rail Line Will Serve Yates Field

Fort Worth, Texas.—A direct railroad connection for the Yates field, Pecos County, is being proposed by the Yates & West Texas Railway Company, and an application has been made to the Interstate Commerce Commission for certificate of public necessity. The above concern was granted charter last week to operate in Texas, with a capital stock of $1,000,000, with the following officers: Ira G. Yates, San Angelo, chairman of board; W. A. Moncrief, Fort Worth operator and chairman of the Yates field proration committee, president; T. L. Wynne, Athens, Texas; and T. H. Steffens, Sand Springs, Oklahoma, vice-presidents. The proposed rail line would connect with the Kansas City, Mexico and Orient Railroad at Rankin, a distance of about 30 miles.

Railroad service into the Hendrick field, Winkler County, is expected to be available late this month through the completion of the Texas & Pacific Railroad's extension line from Monahans. This line will be built through the field to the Texas-New Mexico state line, and an application has been made to extend same across Lea County, New Mexico, to the town of Lovington.

Oil Business Should be Better Organized to Stabilize Production

Statement by E. B. REESER
President American Petroleum Institute

CAREFUL analysis of the situation in the oil producing industry discloses that while some progress has been made toward co-operation to stabilize output, the actual condition is not better than it was last spring but worse.

The total United States production is now well in excess of 2,500,000 barrels per day as against 2,350,000 barrels last May. We are now in the midst of the low consumption season, whereas then we were approaching the period of great summer demand.

Wildcat drilling operations in Kansas and Oklahoma are now 20 per cent greater than they were last May, notwithstanding that the total crude supply exceeds total demand and threatens to increase the excess.

The situation clearly demands attention. Every principle of conservation and good business judgment requires curtailment of drilling and the protection of known reserves against waste.

On April 21, 1928, a meeting of operators adopted the following resolution:

"WHEREAS, in the United States the actual and potential output of crude oil has far outdistanced demand, causing prices to fall to unremunerative levels so that the market price of crude oil, broadly speaking, has declined substantially below the cost of production; and,

"WHEREAS, the remedy for this ruinous condition of the industry is believed to lie in lawful and genuine co-operation among oil producers with the view to restrict and limit unnecessary drilling and unnecessary output of oil so as to bring about a balance between current supply and demand.

"THEREFORE, BE IT RESOLVED, by the oil producers of the states of Oklahoma and Kansas:

1. "We deplore the competitive drilling orgy a year ago in the Seminole area, resulting in excessive production of oil, but we commend the operators there for their voluntary and genuine co-operative action during recent months, resulting in a sane, orderly drilling program and a wholesale reduction in the output of oil.
2. "So long as the present ruinous condition of the industry shall obtain, we pledge ourselves:
   (a) "to drill no unnecessary wells in either proven or wild-cat territory, and,
   (b) "genuinely and voluntarily to co-operate with with neighbors so as to avoid the unnecessary production of oil; and wherever we may be unable to so co-operate we shall invoke the good offices of Mr. Ray M. Collins, Umpire of the Greater Seminole Area and a Committee of Seven appointed by this meeting."

I was chosen Chairman of that Committee and have since been elected President of the American Petroleum Institute. I therefore believe it to be my duty to call the industry's attention to its actual and potential condition and to urge, as I did last spring, that a better organized effort be made to keep production within reasonable bounds through co-operation, unitization and such other lawful means as may be at our command. To this end I ask the assistance of members of the industry and of their local organizations in immediately formulating and putting into effect a policy of curtailment of operations by individual producing units and, on the part of the organizations or associations, a constructive program of promotion of conservative practices.

Purchase of West Texas Properties Completed

Fort Worth, Texas—Officials of the American - Maracaibo Company, which maintains headquarters in the Graybar Building, New York City, were in Fort Worth December 17 to complete the purchase of the West Texas properties of the Henshaw Oil Corporation. The former concern has made two major purchases of royalty and producing properties in West Texas in recent months, involving a total consideration of $6,500,000, and plans to open a branch office in Fort Worth shortly after the first of the year. Properties were acquired earlier in the year in Oklahoma and Kentucky, but prior to these purchases the company's activities were confined to South America. The Pan-American Eastern Corporation controls the American-Maracaibo Company.

The following officials from the New York headquarters of the American-Maracaibo Company were in Fort Worth early this week: Joseph J. Cotter, president; Frederick R. Ryan, chief counsel; Frank Finsthwait, vic e president, and Frank J. Ryan, secretary-treasurer. C. L. Sutton, formerly with the Dixie Oil Company, has been made general superintendent of Texas operations. Charles L. Morgan, Fort Worth attorney, is the legal representative for the company in Texas.

Operators Talk on Water Situation

Fort Worth, Texas—Operators in the deep lime pay area in the Roberts-Chalk field, Howard County, met here December 15 to launch a movement to restrict the encroachment of water upon the deep pay. R. D. Parker, chief supervisor of the Oil and Gas Division of the Texas Railroad Commission, presided at the meeting. Testimony was offered that the water problem has become a serious menace in the field, and plans were made to place the problems in the hands of a field organization of petroleum engineers to make a study of the situation. The engineers are to hold a meeting at Big Spring December 21, and perfect an organization that will make an exhaustive study of the wells that are the principal source of trouble.

Evidence was brought out at the Fort Worth meeting that some wells have developed water trouble from the swabbing test authorized by the proration rules upon the completion of the producer. The commission will probably revise its rules to eliminate the swabbing of wells for initial production gauges, if sufficient evidence is introduced by the committee of engineers that such practices are harmful.

R. B. Hill, manager of the Dallas office of the United States Bureau of Mines, attended the hearing, and announced that the bureau plans to launch a study of water conditions in West Texas fields. Mr. Hill was requested to join the Roberts-Chalk field operators in combatting the spread of water.

Except for several of the original wells, the deep producers in Howard County have been restricted on production by proration enforcement with a maximum allowance of 30,000 barrels daily. E. E. Andrews is umpire for this field.

Winkler Output Increase Probable

Fort Worth, Texas.—Restoration of allowable production under proration rules in the Winkler County fields, West Texas district, to 175,000 barrels daily is expected to be approved by the Texas Railroad commission after a special hearing given operators at Austin Monday, while an increase in allowance for the Yates field was also requested by operators in the latter flush oil area. The Winkler County area was reduced to 150,000 barrels daily October 1, owing to transportation, market conditions and water encroachment being adverse to maintaining the 175,000 barrel daily allowance.

The starting of oil through Atlantic Pipe Line Company's new trunk line shortly will greatly relieve the transportation problem, according to testimony given at the hearing Monday, the Yates field is being limited to 72,500 barrels daily, and in the event the increase is given the Winkler County operators, additional relief will also be given the former operators. Movement of Howard County crude by tank cars to the Louisiana Oil Refining Corporation's plant at Shreveport, was started Saturday. This concern recently became a producer in Howard County, and has arranged for the Cosden Pipe Line Company to gather and load the crude on cars at 10 cents per barrel, while outside purchases of crude in this area may follow shortly after the first of the year.

Atlantic Line Will Start Movement Next Week

Dallas, Texas—Atlantic Pipe Line Company will begin filling its 10-inch trunk line, which extends from Midland tank farm, West Texas district, to the Gulf Coast at Atreco, a distance of 509 miles, with crude this week, but actual pumping of oil will probably not get started until the last week in December, according to R. W. Howe, general manager. Eight of the 11 main line stations have been completed, and about 50 miles of trenching, doping and back filling remains to be completed before the stations are put in operation. This line is expected to handle 40,000 barrels, or more, daily from West Texas, and will require about 250,000 barrels of crude to fill it initially. The welding of the line was completed early in December.

Line Will Increase Runs From Howard County

Big Spring, Texas—In order to increase pipe line runs from the shallow oil area in Howard County, the Coltex Refining Company has announced that a four-inch line will be built from its refinery at Colorado to a point near Iatan, where a connection will be made with Magnolia Pipe Line Company's gathering line, thus shortening the mileage involved in moving Howard County crude to the plant. The present method of handling Howard County crude is to use the old gathering system built by Magnolia Pipe Line Company to store both Howard and Mitchell crudes at the Iatan tank farm, and pump the oil into the Coltex Refining Company's Westbrook field, Mitchell County, pipe line system. The latter company is owned jointly by Anderson-Prichard Oil Corporation, Oklahoma City, Oklahoma, and Standard Oil Company of California.

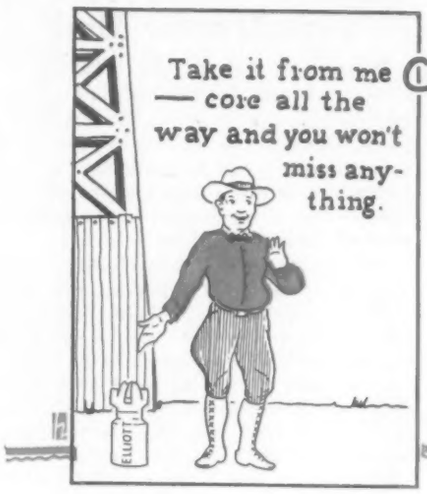
Prairie Dividend is Held Over to Next Year

Independence, Kansas.—Books of the Prairie Pipe Line company are closed, pending reduction of the par value of shares, and the dividend that would have been declared at this time has not been voted. Part of a notice from offices of the company reads:

"Directors of the company deemed it advisable to withhold action with reference to the usual dividend, which ordinarily would have been declared on this date, payable January 31, 1929, to stockholders of record December 31, 1928, until after the special meeting of the stockholders to be held January 4, 1929. It is the intention of the directors, if the plan proposed by them for a reduction in the par value and a stock dividend is approved by the stockholders, to make the next dividend payable upon the new stock and also make it possible to pay all dividends within the year in which the same are declared."

Hawthorne

Los Angeles—By far the most important development of the week in the smaller fields of the Los Angeles Basin was the completion of a 1100-barrel well in the Hawthorne field by the Smith Petroleum Company. This, the second producer in the field, was regarded as the tell-tale test of a much doubted area. The well was completed at 5995 feet, with about 175 feet of oil sand included below the final shutoff. The oil was 36.7 gravity and showed a cut of only one per cent. The Hawthorne-Lawndale district first attracted attention several years ago, when several of the major companies drilled many dry holes. A spectacular blowout was the signal to start extensive operations. Standard Oil Company spent a large sum in drilling a large block of leases, but failed to obtain commercial production. Other companies fared no better, and all became soured on the district. After several years of persistent effort, Smith Petroleum Company seems to have obtained worthwhile production.



And now The Old Order Changeth

so saith the modern driller

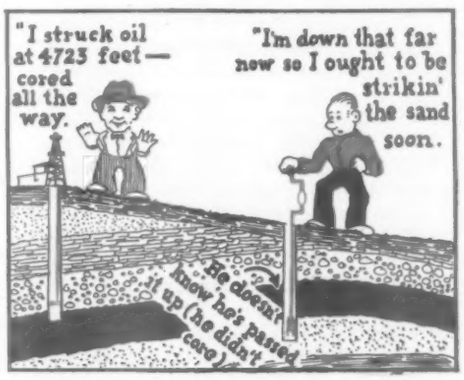
TIME was, and not so many years past, when coring an oil well about twenty-five per cent of its total depth was considered the peak of coring efficiency.

As a matter of fact, many wells were not cored at all.

In those days, when a hole was drilled to the depth at which geological conditions and previous wells indicated the oil sands should be; if the oil sands were not penetrated the hole very often was abandoned.

During the feverish drilling of the past couple of years, oil wells have been drilled to unprecedented depths. For a time, world's records (in depth) were broken almost every week or two. Oil formations which never had been dreamed of were found to exist in fact. Seven and eight thousand foot wells not only had arrived—production on a profitable basis from these depths was practical.

Coring to learn exactly what existed at these greater depths showed up wide variations in formational depths. Just so, coring became more of a dependable guide to economical drilling operations than ever before.


"I struck oil at 4723 feet — cored all the way.
"I'm down that far now so I ought to be strikin' the sand soon.
He doesn't know he's passed it up (he didn't core)!

A recent report on the Santa Fe Springs (California) field reads as follows, in parts: " . . .comparison of the Santa Fe Springs formations with those at Signal Hill indicate that more oil sands may lie beneath the Buckbee zone, at depths between 6,400 and 7,500 feet . . . . So strong is the belief of many prominent operators in this theory that it is reported on good authority that at least two or three of the major operators will not stop their first new wells in the Buckbee zone but ***will continue coring down toward 7,000 feet for the purpose of determining the true formations down to 7,000 or 7,500 feet*** . . . ." And so, the old order changeth. Geologists, petroleum engineers, drilling superintendents — everyone engaged in petroleum production find continuous coring to be one of their greatest assets. No longer do they depend upon wells close by, upon theory, nor even upon spasmodic coring. Today they want to know—and to know means to core.

Elliott Core Drills have cored millions of feet of hole. The evidence obtained is positive—conclusive. Actual records on scores of wells have shown large savings effected by continuous coring. All this and other valuable data on coring is available to you—here—at any time. Call us for expert coring advice.

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Elliott - Coring Experts

Proves Another Dome in Fort Bend County

Houston.—On December 16, Gulf Production Company completed Louis Wolf 13 at Long Point, Fort Bend County, as the first producer of the dome; and this discovery well was the fifty-second test drilled there. It was brought in as a pumping well, making 100 barrels of fluid, 50 per cent. b.s. and water and 50 per cent. oil testing 15 degrees gravity. The production is from cap rock at 600 feet, the location of the well being on top of the dome. Practically all of the numerous other tests that have been drilled at Long Point have been farther away from the center of the top of the dome, encountering cap rock at various depths, down to 4250 feet. A large number of the tests hit the cap around 800 to 1000 feet.

Long Point dome is one of the numerous salt domes of the Gulf Coast discovered and outlined through geophysical work. It was found in 1924, the first indication of the dome having been through a torsion balance survey.

Gulf Production Company has entire control of the dome, and has been taking its time in exploring it, keeping active there consistently, running at least one rig all the time. Besides its possibilities for oil production, the dome is said to offer favorable possibilities for sulphur production on a commercial scale, considering the amount of sulphur there and its proximity to the surface of the earth.

Salt Flat Making 7,121 Barrels Daily

Houston.—Among the latest completions in the Salt Flat (Bruner) field on the outskirts of Luling, Caldwell County, were the following: Gulf Production Company's Connally 1, which came in for 1200 barrels initial from 17 feet of Edwards lime at 2723 feet; J. S. Abercrombie's Moses 2, good for 1028 barrels from 20 feet of lime at 2728 feet; and Thurman and Brown's City of Luling, 200 barrels initial.

During the week ending December 15 the average daily production of the field was 7121 barrels from 16 wells. The owners of these 16 wells include nine operators.

The daily production by wells was as follows: J. S. Abercrombie's Moses 1, 762 barrels, and Moses 2, 1025 barrels; Cranfill & Reynold's Smith 2, 659 barrels, and Smith 3, 43 barrels; Golden West Oil Company's Wilson 2, 181 barrels, Wilson 3, 200 barrels, and Wilson 4, 429 barrels; Lutex Oil Company's Davis 4, 25 barrels, and Wilson 2, 248 barrels; Shell Petroleum Corporation's Smith 1, 578 barrels, Smith 2, 782 barrels, and Smith 4, 70 barrels; Sun Oil Company's Malone 1, 523 barrels; Suttle et al's Malone 1, 96 barrels; The Texas Company's Merriweather 2, 1385 barrels (from the Buda formation); and Townes et al's Hickman 1, 115 barrels; total 7121 barrels.

The buyers of crude in the Salt Flat field include Magnolia Pipe Line Company, Shell Petroleum Corporation and Sun Oil Company, the two latter being important producers there also. Magnolia Pipe Line Company is handling what oil it is taking in its main line of the Luling district, paying $1.00 per barrel, the regular price of Luling crude. Sun Oil Company and Shell Petroleum Corporation, however, are reported to be paying $1.31 per barrel for the Salt Flat oil, inasmuch as it has less sulphur content and is a better grade of oil than the regular Luling crude. The Sun Oil Company is handling the oil that it produces and buys by tank car; and the Shell Petroleum Corporation is running its crude to storage.

Fourth Deep Producer at Raccoon Bend

Houston.—Humble Oil & Refining Company and Valley Oil Corporation late last week completed Grawunder B-1 in the south part of the Raccoon Bend field, Austin County, as the fourth deep producer there. It came in at 3262 feet for 800 barrels initial, flowing through a one-half-inch choke. The production registered 78 degrees temperature, and its corrected gravity was 22.5 degrees. The pressure was 200 pounds. A couple of days later the production had increased to 1093 barrels, and the pressure had risen to 230 pounds.

Grawunder B-1 is 350 feet east of Gotosky 3, which is still producing, and 850 feet east of the same Gotosky 2, discovery deep well of the field. The only other deep producer at Raccoon Bend up to the present is the Bracey A-1, located 6200 feet north of the Gotosky and Grawunder lands.

Other activity o fthe Humble Oil & Refining Company and Valley Oil Corporation, sole operators at Raccoon Bend, is as follows, Hardy 1 is waiting for cement to set at 1224 feet; Hardy 2 is a derrick; A. Grawunder C-1 is waiting for cement to set at 1336 feet; Beal 1 is drilling sand and shale at 3274 feet; Bracey B-1 is waiting on cement to set at 3273 feet; Walton 2 is drilling the plug at 1172 feet; Urban 2, formerly the wild gas well, is pumping mud in the casing; and Urban 3 is standing at 198 feet.

Boggy Creek

Houston.—The latest completion in the Boggy Creek field, Anderson-Cherokee Counties, East Texas, was the Neches Petroleum Company's Neches River Bed 1, which through an arrangement with the Humble Oil & Refining Company became the property of the latter when it came in a producer. It is now known as Humble Oil & Refining Company's Mandelstam 4. This well came in at 3652 feet making 21 barrels per hour on a three-eights inch choke, also making 2,250,000 cubic feet of gas.

This producer in the Neches River bed is on a line between the Elliott-Clark 1, discovery well at Boggy Creek, and the Mandelstam 2, which is in the southern end of the field. It is 4350 feet southwest of the Elliott-Clark 1, and 2000 feet northeast of the Mandelstam 2.

Gonzales Well Producing From Taylor Marl

Houston—Following closely after the opening of several other fields in the same general vicinity, the new wildcat strike of the Empire Oil & Fuel Company, Norwood 1, in the north end of Gonzales County, has added another live spot to the already interesting district in the general area of Luling.

According to a report Tuesday, the well was making 350 barrels per day, and preparations were being made to run tubing in order to try to increase the output. The production is from not over 40 feet of Taylor marl at a total depth of 3790 feet. Prior to bringing in the well from the marl, a test was made in a few feet of Austin chalk, which tested dry. It is concluded that the oil is from the Taylor, although that formation has not heretofore yielded production. The oil of the Norwood 1 is fairly light, testing 27.5 gravity.

Early reports showed the well to be flowing by heads, making 150 barrels per day, without having cleaned itself. Casing was set above the Taylor, and from there to the bottom was open hole. Pending construction of steel storage to take care of possible large flow of oil, the production was held down by pumping in mud, with the plan of allowing the well to clean itself after building the storage.

The well is 2050 feet west of the east line and 450 feet north of the south line of the Winslow Turner league in the 428-acre tract of Mrs. R. M. Norwood. It is about a mile northeast of Ottine, a station on the S. A. & A. P. railroad; and is near the San Marcos River on the Gonzales-Luling highway, about six miles southeast of Luling, and 10 miles northeast of Gonzales, the county seat of Gonzales County and just inside Gonzales County near the Gonzales-Caldwell County line.

The company which brought in the discovery well is said to control around 9000 acres in the vicinity, and other companies which held acreage in the area included The Texas Company; but since the well came in, there has been a great deal of trading in leases and royalties.

This new producing are in Gonzales County has long been considered a favorable prospect, the earliest efforts to uncover oil having been in 1903, it is said, when various shallow tests were drilled within the triangle formed by the towns of Ottine, Slayden and Harwood, resulting in several producing wells slightly south of the present producer.

Six miles northwest of the Gonzales County well is the new Salt Flat field on the outskirts of the town of Luling; and six miles northwest is the old Luling field; both the Salt Flat and the Luling production coming from the Edwards lime; while still farther to the northwest, about eight miles, is the Jolly pool, near Lockhart, opened for production this year.

Report Shows Government's Wide Interest in Oil and Gas

WASHINGTON, D. C.—A total of 543 oil and gas leases and 21,726 oil and gas prospecting permits are now being controlled by the United States Geological Survey as part of its work of administering the provisions of the leasing law, according to Director George Otis Smith, recently appearing before the House Appropriations Committee to discuss the activities of his branch of the interior department during the coming fiscal year.

During the fiscal year 1928 there were issued 4406 new oil and gas permits and 47 oil and gas leases, he told the committee. The survey also administers Indian land leases for oil and gas and other deposits, and is supervising 10,515 such leases including 5731 producing wells.

During the last eight years, Dr. Smith declared, the royalty due for oil, gas and gasoline from public lands amounted to $51,529,581, of which $3,735,451 were received during the fiscal year which ended June 30, last.

"The offices engaged in oil and gas operations have not been fully manned, and the work has suffered in consequence," Dr. Smith explained in discussing the activities of the survey. "The work is not of a kind that can be postponed. The lessees proceed with their operations just the same whether the supervisory work is done or not—and with inadequate supervision the government faces certain and large losses. It has now become necessary to spend government funds to accomplish protection of mineral deposits, subjected to damage by permittees because of inadequate supervision in previous years, a special reappropriation of $40,000 having been made for that purpose by the deficiency act of May 29, 1928. As long as the wells remain in bad condition on government land they constitute a menace to all oil and gas resources of the region as well as a bad example to all concerned. Such dereliction on the part of the government is a serious obstacle to enforcement of the leasing laws and regulations.

"Too much emphasis can hardly be put upon the fact that the work of administering the business of the government landlord is highly productive. The field engineers engaged in supervising the operation of the oil and coal leases actually save their salaries in terms of increased royalty many times a year. The royalty returns from operations supervised amount to nearly $15,000,000 a year, so that the appropriation constitutes only a small percentage of the revenue. Not so tangible but far larger in real value are the results of the engineering advice and positive orders given to the lessees in suggesting improved methods and enforcing specific regulations, whose purpose is safeguarding the government's property. Increased recovery and longer life are secured by this every-day service by the government engineers. In not a few instances, every year, the mining engineers employed by the government render first-aid to inexperienced lessees, with limited resources, who would otherwise fail in their enterprise. Where the lessees lack their own engineering staff, this type of help is often absolutely necessary to protect the mineral estate of the government lessor from injury.

"On the doubtful assumption that the work of conservation of minerals through enforcement of the leasing laws and regulations can be performed in 1930 for a largely increased number of operations with the same personnel as in 1929 for a considerably smaller volume of work, and that no new oil or gas fields will be discovered in 1929 and 1930."

More than 25,854,000 barrels of crude oil were produced in the Indian lands owned by the Five Civilized Tribes during the fiscal year, the committee was informed in discussing affairs of the Indian Bureau. In the Five Civilized Tribes there were 4290, oil wells and 226 gas wells. The Osage Reservation also has a large production of oil and gas and their income during the fiscal year was more than $11,500,000. The income from all oil and gas on restricted Indian lands, including those located in New Mexico, Wyoming and Montana, amounted to $17,809,752, and the total production of crude for the year was 48,891,314 barrels.

Texas Not to Auction Leases at This Time

Austin, Texas—Withdrawal of all but 103,000 acres of the 1,500,000 acres of University of Texas fee lands in West Texas previously advertised to be sold for oil and gas development during a series of sales in January has been announced by J. T. Robinson, State Land Commissioner. The first sale which is to be conducted by means of a sealed bid, is scheduled for January 2, and will not be interfered with, but the balance of the acreage will not go on the market for the time being. Protests registered by members of the board of regents of the university, legislators and others, against the disposal of the mineral rights in such large quantities in January caused Commissioner Robison to take action in the matter. Those protesting, allege that prevailing conditions in the oil industry are such that bidders will not offer big bonuses for drilling rights on this virgin land, thus incurring a great financial loss to the university funds, while increased wildcat activity that is likely to follow such sales would soften the West Texas crude price structure. Royalty revenue from West Texas oil lands is a big item in the university's financial affairs.

A movement has been launched to introduce a resolution when the Firty-First legislature meets in Austin early in January to withdraw all or a major portion of the university fee lands from the market until a more favorable time presents itself, although the bidding act of 1925 authorizes the Land Commissioner to make the sale in January.

The acreage that will go on the market January 2 is located in Andrews, Crane, Ward and Winkler Counties, and none of it is reasonably close to known oil and gas production, although a few of the tracts are situated in trends that have attracted lease activity within the past year or more.

Copies of the list of acreage that is supposed to go on the market in January can be had by directing a request to Commissioner J. T. Robison at Austin.

Los Angeles—Union Oil Company has formed a Mexican subsidiary, the Compania De Petroleo Union, to handle the company's affairs in Mexico. Headquarters will be maintained in Vera Cruz. R. M. Putnam, formerly assistant manager of production, has been elected vice president and general manager.

Little Additional Drilling Will Follow Sale of Leases

TULSA.—A total bonus of $437,400 was paid for 172 of the 189 tracts offered at the thirty-second Osage Indian lease sale held in Pawhuska on December 11. The feature of the sale was the large percentage of the offered tracts that were sold, only 17 being passed. This is considered an especially high per cent. since there was little acreage to offer in the vicinity of big production.

Carter Oil Company paid the two highest prices for acreage. Tract No. 158, in the northeast quarter of Section 33-26-6, in the southeast extension to the Burbank field, was purchased for $70,000. The highest priced tract was No. 159, northwest quarter of Section 34-26-6, for which Carter paid $82,000.

There were only six tracts that brought more than $10,000 each. There were 58 tracts which commanded a bonus of $1000 or more each. Included in these were several regarded as wildcat acreage.

The 87 east side tracts brought a bonus of $147,910 and 84 west side tracts $289,490.

The sale is expected to result in but little additional drilling at this time, with the exception of the tracts in Southeastern Burbank, where development will probably be fast due to large production already found in that area.

Osage County's production of crude oil has been slumping steadily since the first of the year, with the result that there is a strong demand for this high-valued lubricating oil. This demand will probably cause several of the companies taking wild-

cat stuff to start development. Scarcity of lubricating crude in the Mid-Continent, due principally to the decline of Burbank production, is causing many concerns to pay very high premiums for this oil.

An interesting feature was the appearance of several new bidders at the sale. Red Bank Oil Company returned to Osage County operations with the bidding in of several tracts. The reorganized Mid-Co Oil Corporation was another active bidding concern. Some other new faces were: John Zeka and John Neeley of Tulsa; W. H. Coons of Los Angeles; John J. Chambers of Chanute, Kansas; W. W. Robertson of Oklahoma City; the New Okla Company, and J. H. Thacker, both of Okmulgee.

Following are the tracts offered for sale; all of 160 acres except as noted:

Tracts Sold and Prices Paid at Osage Indian Land Lease Auction

EAST SIDE

Tract	Description	Purchaser—	Price
1	NW 27-20-11	Geo. Waggoner	$ 160
2	NE 27-20-11	Samuel E. Wolff	100
3	SE 27-20-11	Mid-Co Oil Corporation	400
4	SW 27-20-11	Samuel E. Wolff	300
5	SW 12-21-11	John Veka and John Neely	1,700
6	NW 13-21-11	Ray Branstetter	500
7	NW 13-21-11	Ray Branstetter	600
8	NE 14-21-11	Ray Branstetter	300
9	SE 14-21-11	Ray Branstetter	1,100
10	NE 28-21-11	Prod. Pet. Corp. & Walker Oil Co.	700
11	NW 28-21-11	Peters Pet. & Prod. & Ref.	700
12	NE 11-20-10	Redbank Oil Company	600
13	NW 11-20-10	Red Bank Oil Company	1,000
14	SE 11-20-10	Red Bank Oil Company	700
15	SW 11-20-10	Red Bank Oil Company	1,100
16	NE 8-21-10	E. H. Prue	250
17	NW 9-21-10	E. H. Prue	200
18	NE 1-22-10	E. H. Prue	200
19	SE 1-22-10	E. H. Prue	200
20	NW 16-22-10	A. G. Oliphant	225
21	NE 17-22-10	Mid-Co. Oil Corp.	800
22	SE 17-22-10	A. G. Oliphant	3,000
23	NW 22-23-10	The Texas Company	100
24	NE 29-24-10	W. N. Coons	300
25	SW 33-34-10	Red Bank Oil Company	300
26	NE 5-25-10	Skelly Oil Company	1,000
27	NW 5-25-10	The Texas Company	1,900
28	SE 5-25-10	I. T. I. O.	2,400
29	SW 5-25-10	Skelly Oil Company	2,100
30	SE 15-26-10	Wrightsman Pet. Co.	300
31	SE 21-21-9	Red Bank Oil Company	1,300
32	NE 29-21-9	S. E. Wolff	300
33	SW 29-21-9	Red Bank Oil Company	600
34	SW 12-22-9	J. E. Dunnigan	100
35	NE 13-22-9	Mid-Co. Oil Corp.	400
36	NW 13-22-9	Mid-Co. Oil Corp.	400
37	SW 1-23-9	A. G. Oliphant	500
38	SE 2-23-9	A. G. Oliphant	2,100
39	NE 10-23-9	H. N. Hanner and R. H. Sherman	100
40	SE 10-23-9	A. G. Oliphant	400
41	NW 27-23-9	Red Bank Oil Company	800
42	SW 28-23-9	Indian Territory Ill. Oil Co.	20,000
43	NW 33-23-9	Indian Territory Ill. Oil Co.	2,600
44	NE 34-23-9	A. G. Oliphant	400
45	SE 8-24-9	Red Bank Oil Company	900
46	NE 9-24-9	W. D. Gray	400
47	NW 10-24-9	W. D. Gray	5,000
48	SW 6-25-9	Bert Lawton	100
49	NW 7-25-9	John G. Chambers	200
50	NW 8-25-9	Peters Pet. & Prod. & Refiners	100
51	NW 14-25-9	P. J. Radke	100
52	NW 15-25-9	P. J. Radke	200
53	NE 16-25-9	P. J. Radke	200
54	NE 8-26-9	The Texas Company	1,200
55	SW 10-26-9	The Texas Company	2,200
56	NW 15-26-9	Skelly Oil Company	4,100
57	SE 19-26-9	Passed	
58	NE 14-21-8	New Okla. Company & J. H. Thacker	100
59	NW 19-22-8	J. A. Davis	100
60	SW 19-22-8	Skelly Oil Company	1,000
61	SE 27-22-8	Skelly and Ohio Osage Oil Co.	500
62	SW 27-22-8	Skelly and Ohio Osage Oil Co.	1,200
63	NE 3-23-8	W. D. Gray et al	28,000
64	NW 3-23-8	W. D. Gray et al	16,500
65	SW 6-24-8	G. V. Labadie	6,900
66	SE 7-24-8	G. V. Labadie	3,100
67	SW 7-24-8	G. V. Labadie	2,000
68	NW 8-24-8	A. G. Oliphant	1,700
69	SW 13-24-8	New Okla. and J. H. Thacker	500
70	NW 20-24-8	The Texas Company	5,800
71	NW 24-24-8	New Okla. and J. H. Thacker	300
72	NW 25-24-8	Marland Production Company	1,400
73	SE 1-25-8	Passed	
74	NE 12-25-8	Passed	
75	NE 15-25-8	T. J. Radke et al	100
76	SE 16-25-8	Prairie Oil & Gas Company	100
77	SW 17-25-8	Prairie Oil & Gas Company	3,500
78	NE 23-25-8	Red Bank Oil Company	300
79	NW 23-25-8	John G. Chambers	200
80	NE 2-26-8	W. H. Coons	500
81	NW 2-26-8	Prairie Oil & Gas Company	600
82	SE 2-26-8	E. H. Prue	700
83	NE 10-26-8	Peters & Prod. & Refiners	1,700
84	SE 10-26-8	Peters & Prod. & Refiners	1,100
85	NE 25-26-8	H. N. Hanna & R. H. Sherman	100
86	NE 26-26-8	Indian Territory Ill. Oil Co.	800
87	NW 32-26-8	Passed	
88	SW 32-26-8	Passed	
89	NE 11-27-8	Passed	
90	NW 12-27-8	H. N. Hanna & R. H. Sherman	100
91	SW 12-27-8	Passed	
92	NW 27-27-8	T. J. Radke et al	300
93	NE 28-27-8	New Okla. and J. H. Thacker	200
94	NW 8-28-8	Plains Petroleum Company	100
95	SW 8-28-8	Passed	

WEST SIDE

Tract	Description	Purchaser—	Price
96	NE 3-21-7	The Texas Company	100
97	NW 3-21-7	National Refining Company	300
98	SE 3-21-7	W. H. Coons	100
99	SW 3-21-7	National Refining Company	200
100	NE 3-22-7	Wrightman Refining Company	200
101	NW 3-22-7	The Texas Company	500
102	SE 3-22-7	Wrightsman Petroleum Company	200
103	SW 3-22-7	Mid-Continent Petroleum Corp.	4,500
104	SE 2-23-7	Passed	
105	SW 2-23-7	Prairie Oil & Gas Company	1,100
106	SE 13-23-7	A. G. Oliphant	6,200
107	SW 15-23-7	Mid-Continent Petroleum Corp.	4,100
108	NE 24-23-7	The Texas Company	2,700
109	SW 2-24-7	Prairie Oil & Gas Company	2,100
110	NW 5-24-7	L. O. Funk	300
111	SW 5-24-7	Indian Territory Ill. Oil Co.	500
112	SE 9-24-7	Comar Oil Company	800
113	NW 11-24-7	Peters Petroleum & Prod. & Refiners	4,500
114	NE 12-24-7	G. V. Labadie	2,500
115	SE 12-24-7	G. V. Labadie	3,100
116	NE 16-24-7	Peters Pet. & Prod. & Refiners	1,700
117	NE 31-24-7	Indian Territory Ill. Oil Co.	600
118	NW 31-24-7	Empire Oil & Refining Company	500
119	NE 31-24-7	Empire Oil & Refining Company	800
120	SW 31-24-7	Empire Oil & Refining Company	900
121	SE 35-24-7	Plains Petroleum Company	1,000
122	NE 7-25-7	New Okla. and J. H. Thacker	600
123	NW 7-25-7	National Refining Company	500
124	NE 9-25-7	Peters & Prod. & Refiners	600
125	SE 9-25-7	Comar Oil Company	800
126	NW 10-25-7	Red Bank Oil Company	1,000
127	SW 10-25-7	Red Bank Oil Company	1,100
128	NW 7-25-7	Prairie Oil & Gas Company	1,100
129	SW 26-25-7	Peters & Prod. & Refiners	1,100
130	SE 19-26-7	Peters & Prod. & Refiners	700
131	NW 30-26-7	Peters & Prod. & Refiners	2,100
132	NE 32-26-7	National Refining Company	500
133	SE 32-26-7	Peters & Prod. & Refiners	500
134	NW 33-26-7	Duffield & Howard	500
135	SW 32-26-7	Margay Oil Company	700
136	NE 12-27-7	W. W. Robertson	100
137	NE 12-27 7	W. W. Robertson	100
138	SE 12-27-7	W. W. Robertson	500
139	SW 12-27-7	W. W. Robertson	500
140	NE 25-27-7	Prairie Oil & Gas Company	400
141	NW 25-27-7	J. D. Mitchell	200
142	SE 25-27-7	Prairie Oil & Gas Company	500
143	SW 25-27-7	The Texas Company	300
144	NE 8-23-6	Peters & Prod. & Refiners	200
145	NW 8-23-6	Red Bank Oil Company	500
146	SE 8-23-6	The Texas Company	700
147	SW 8-2-6	Ray Bruce and G. V. Labadie	900
148	NE 22-23-6	Westland Oil Company	800
149	NW 23-23-6	Westland Oil Company	900
150	NW 11-24-6	Phillips Petroleum Company	19,000
151	SW 11-24-6	Marland Production Company	17,000
152	NW 19-24-6	The Texas Company	4,000
153	SW 19-24-6	Marland Production Company	700
154	NE 6-25-6	Phillips Petroleum Company	3,200
155	SE 6-25-6	Phillips Petroleum Company	3,200
156	SE 1-26-6	Big Ben Oil & Gas Company	1,200
157	SE 24-26-6	A. G. Oliphant	4,100
158	NE 33-26-6	Carter Oil Company	70,000
159	NW 34-26-6	Carter Oil Company	82,000
160	NE 17-27-6	Peters Petroleum & Prod. & Refiners	500
161	NE 21-27-6	Red Bank Oil Company	400
162	SE 22-27-6	J. G. Chambers	400
163	SW 23-27-6	Duffield and Howard	300
164	NE 9-24-5	Red Bank Oil Company	300
165	Fr. SE 9-24-5	146.90 Red Bank Oil Company	400
166	NW 10-24-5	Red Bank Oil Company	400
167	Fr SW 10-24-5	143.55 Peters & Prod. & Refiners	500
168	NE 25-24-5	Marland Production Company	500
169	Fr. NW 25-24-5	111.85 Marland Production Co.	300
170	NE 13-25-5	Phillips Petroleum Company	2,000
171	SE 13-25-6	Phillips Petroleum Company	300
172	NE3-26-6	New Okla. Co. and J. H. Thacker	100
173	SE 3-26-6	Duffield and Howard	100
174	NE 9-24-4	Prairie Oil & Gas Company	3,200
175	Fr. NW 9-24-4	Passed	
176	SE 9-24-9	Passed	
177	Fr. SW 8-24-4	Passed	
178	NE 7-25-4	Passed	
179	NW 7-25-4	Passed	
180	SE 7-25-4	Passed	
181	SW 7-25-4	Passed	
182	NE 2-25-3	Passed	
183	SE 2-25-3	Transcontinental Oil Company	3,400
184	NW 3-25-3	Prairie Oil & Gas Company	6,600
185	SW 3-25-3	Transcontinental Oil Company	6,300
186	NE 23-25-3	Peters & Prod. & Refiners	100
187	NW 23-25-3	Western American Oil Company	500
188	SE 23-25-3	Peters & Producers & Refiners	300
189	SW 23-25-3	Peters & Producers & Refiners	600

[4]130.15 acres.
[5]106.20 acres.

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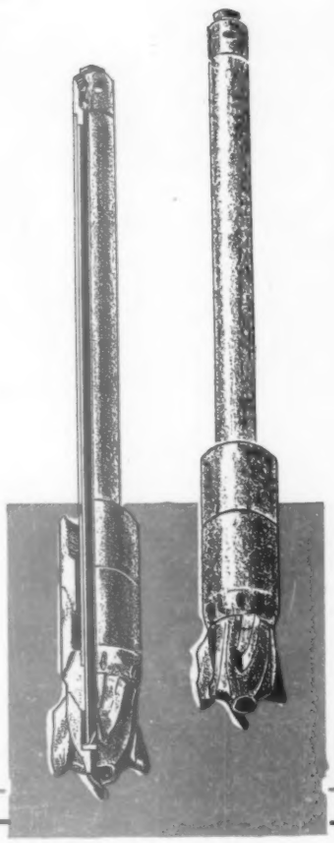

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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,408,900
October	782,300	105,100	497,900	138,400	54,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
Dec. 1	708,600	97,250	582,950	132,150	38,200	82,100	110,000	78,100	676,800	2,506,150	17,543,050
Dec. 8	705,300	97,950	598,750	132,400	37,750	83,950	112,000	73,150	679,600	2,520,850	17,648,950
Dec. 15	707,050	96,600	601,650	135,400	37,500	81,550	113,500	75,950	697,600	2,546,800	17,827,600
Increase	1,750	.....	2,900	3,000	.....	.....	1,500	2,800	18,000	25,950	181,650
Decrease	.....	1,350	.....	.....	250	2,400	.....	.....	.....	.....	.....

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Dec. 15	Dec. 8
Carson County	5,500	6,000
Gray County	23,000	24,350
Hutchinson County	28,900	28,000
Wheeler County	800	800
Others	3,000	3,450
Total	61,200	62,600

NORTH TEXAS

Archer County	19,000	19,150
Burkburnett	11,000	10,000
Electra	13,000	12,950
Iowa Park-KMA	3,950	3,900
Montague and Cocke Cos.	10,050	9,950
Wilbarger	33,000	33,100
Others	600	600
Total	90,600	89,650

WEST CENTRAL TEXAS

Brown County	9,950	10,250
Callahan County	3,750	3,900
Coleman County	3,950	4,100
Eastland-Desdemona	6,950	7,050
Jack County	1,200	1,300
Palo Pinto County	400	350
Shackelford County	10,250	10,400
Stephens County	8,000	7,600
Throckmorton County	750	800
Young County	8,500	8,550
Others	700	700
Total	54,400	55,000

WEST TEXAS

Crane-Upton Counties	52,100	52,650
Crockett County	2,750	2,750
Howard County	36,600	36,600
Jones County	6,500	6,650
Mitchell-Scurry Cos.	2,650	2,700
Pecos County	71,800	71,300
Reagan County	17,150	17,050
Winkler County	147,800	146,900
Others	1,950	1,700
Total	339,300	338,300

EAST CENTRAL TEXAS

Boggy Creek	2,800	2,850
Corsicana-Powell	9,900	9,900
Currie	500	500
Mexia	6,300	6,300
Nigger Creek	700	700
Richland	500	500
Wortham	1,500	1,500
Total	22,200	22,250

SOUTHWEST TEXAS

Dale	900	850
Laredo District	9,850	9,550
Luling	13,300	13,400
Lytton Springs	1,000	1,100
Somerset	700	700
Salt Flat	7,100	4,400
Others	1,100	950
Total	33,950	30,950
T'tl Tex. (Outside Gulf Coast)	601,650	598,750

TEXAS GULF COAST

Barbers Hill	950	500
Batson	1,300	1,350
Big Creek	2,800	1,900
Blue Ridge	4,500	5,000
Boling	2,900	2,800
Damon Mound	850	1,000
Goose Creek	6,400	6,600
Hull	10,350	10,550
Humble	3,500	3,750
Orange County	3,200	3,300
Pierce Junction	12,200	10,100
Raccoon Bend	850	...
Saratoga	950	950
Sour Lake	3,000	3,200
South Liberty	6,300	5,650
Spindle Top	37,450	36,450
West Columbia	7,400	7,650
Sugar Land	4,750	4,800
Others	2,850	3,950
Total	112,500	109,500
Texas Total	714,150	708,250

OKLAHOMA

North Braman	2,700	2,700
South Braman	1,350	1,300
Blackwell	3,250	3,300
Hubbard	2,250	2,300
Thomas	1,050	1,100
Tonkawa	11,800	11,750
Garber	7,050	7,050
Burbank	25,000	25,050
Osage (outside Burbank)	25,950	25,950
Cushing	19,950	20,000
Yale Jennings	7,650	7,650
Davenport	1,700	1,650
Bristow Slick	20,100	20,150
North Okmulgee	14,350	14,400
Lyons Deaner	4,200	4,250
Cromwell	8,000	8,050
Papoose	4,000	4,000
Wewoka	5,350	5,400
Seminole	41,250	41,600
Bowlegs	47,400	48,100
Searight	10,100	10,400
Little River	87,950	95,600
Earlsboro	75,300	76,200
Duncan District	7,500	7,750
Graham	4,700	4,750
Fox	1,550	1,600
Healdton	13,500	13,650
Hewitt	8,900	9,000
Scholem Alechem	14,350	14,350
Pearsen	1,850	1,950
St. Louis	133,950	128,150
Allen	28,700	26,450
Others	64,350	59,700
Total	707,050	705,300

CALIFORNIA

Santa Fe Springs	92,500	76,500
Long Beach	190,000	190,000
Huntington Beach	50,200	50,500
Torrance	15,500	16,000
Dominguez	10,000	10,000
Rosecrans	6,800	6,500
Inglewood	27,600	27,600
Midway-Sunset	75,000	75,000
Ventura Avenue	52,000	52,000
Seal Beach	29,500	28,500
Others	148,500	147,000
Total	697,600	679,600

KANSAS

Greenwood County	24,800	25,300
Florence-Covert	1,000	1,000
Peabody-Ebling	3,250	3,250
Eldorado-Towanda	12,900	12,900
Augusta-Fox Bush	3,200	3,250
Rainbow Bend	1,250	1,250
Russell	3,700	3,700
Churchill	7,650	8,150
Oxford	6,650	7,450
Others	32,200	31,700
Total	96,600	97,950

NORTH LOUISIANA

	Dec. 15	Dec. 8
Homer	4,100	4,100
Haynesville	5,550	5,650
Caddo Light	9,100	9,150
Caddo Heavy	3,000	2,950
DeSoto-Red River	4,100	4,100
Elm Grove	550	600
Bellevue	900	850
Cotton Valley	3,650	3,800
Urania	6,050	6,050
Pleasant Hill	500	500
Totals North Louisiana	37,500	37,750

LOUISIANA GULF COAST

Bayou Beullon	700	600
East Hackberry	5,050	5,300
Edgerly	1,000	800
Evangeline	850	900
Lockport	3,900	3,900
Sorrento	1,200	1,500
Sulphur Dome	4,000	3,600
Sweet Lake	1,200	1,400
Vinton	4,200	4,050
Others	800	850
Total Louisiana Gulf Coast	22,900	22,900
Louisiana Total	60,400	60,650

ARKANSAS

El Dorado	4,950	4,950
Champagnolle	11,900	14,150
Smackover Light	7,100	7,150
Smackover Heavy	53,350	53,650
Stephens	1,050	1,000
Nevada	1,400	1,250
Lisbon	1,700	1,700
Others	100	100
Total	81,550	83,950

MOUNTAIN STATES

WYOMING

Salt Creek	33,200	29,750
Grass Creek	2,350	2,350
Elk Basin	800	1,000
Big Muddy	2,550	2,550
Lost Soldier	3,650	3,650
Rock River	2,200	2,250
Lance Creek	350	350
Oregon Basin	3,050	3,500
Others	5,750	5,500
Total	53,900	50,900

MONTANA

Cat Creek	1,550	1,500
Sunburst	7,950	7,950
Pondera	1,800	1,400
Others	50	100
Total	11,350	10,950

COLORADO

Moffats (Craig)	1,200	1,150
Fort Collins	2,100	2,050
Florence	1,300	1,350
Others	2,350	2,350
Total	6,950	6,900

NEW MEXICO

Table Mesa	100	100
Artesia	1,100	1,050
Hogback	500	550
Rattlesnake	1,950	2,600
Others	100	100
Totals	3,750	4,400
Totals Mountain States	75,950	73,150

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	113,500	112,000

PRODUCTION SUMMARY

East of Rockies	1,773,250	1,768,100
Total U. S.	2,546,800	2,520,850

GUIBERSON

BETTER BE SAFE ORRY

DALLAS, TEXAS

Say you saw it in The OIL WEEKLY

CRUDE OIL PRICE QUOTATIONS

CURRENT POSTINGS

EASTERN STATES

Effective December 14th, all grades of Pennsylvania Crude were advanced twenty-five cents per barrel. Buckeye crude was advanced thirty-five cents.

	Dec. 18 1928
Penna Grade Oil in New York Transit Lines (New York)	$3.85
Brandford District Oil in National Transit Lines (Pennsylvania)	3.85
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.75
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.75
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.65
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (July 13)	1.45
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines (August 8)	1.70
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (Aug. 8)	1.80
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (Sept. 14, 1928)	1.75
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95
Keister (Pennsylvania)	1.20

CENTRAL STATES

Illinois	1.55
Indiana	1.37
Lima	1.60
Plymouth	1.28
Princeton	1.55
Waterloo	1.35
Wooster	1.77

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren.

All grades	1.75

MID-CONTINENT

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

*The Texas Company posts a price of 60 cents on 24 to 24.9 gravity, and Gulf's posting begins at 28 to 28.9.

MID-CONTINENT

Magnolia Petroleum Company

Below 25 gravity	.60
25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 29.9 gravity	.75
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.16

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude (Humble Oil and Refining Company)*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

SOUTH TEXAS

Mirando	1.00

SOMERSET

Grayburg

	Dec. 18 1928
Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

MARKHAM

The Texas Company

All grades	1.00

LULING

All grades	1.00

PANHANDLE

GRAY COUNTY

(Humble Oil and Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.68
29 to 29.9 gravity	.75
30 to 30.9 gravity	.82
31 to 31.9 gravity	.89
32 to 32.9 gravity	.96
33 to 33.9 gravity	1.01
34 to 34.9 gravity	1.06
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.16
37 to 37.9 gravity	1.21
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.31
40 to 40.9 gravity	1.36

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated

Gravity	Signal Hill	Alamitos Hts Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14.9	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ...	$ .50	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	...	.50	.75	.75	.75	.75	.75
16-16.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	...	.50	.75	.75	.75	.75	.75
17-17.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	...	.50	.75	.75	.75	.75	.75
18-18.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	...	.50	.75	.75	.75	.75	.75
19-19.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	...	.50	.75	.75	.75	.75	.75
20-20.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.86	.85	..	..	.77	.77	.77	.77	.77
21-21.9	.89	.89	.89	.89	.89	..	.89	.89	.88	.89	.88	.89	..	.79	.79	.79	.79	.79
22-22.9	.93	.93	.93	.93	.93	..	.93	.93	.91	.92	.91	.92	..	.82	.82	.82	.82	.82
23-23.9	.97	.97	.97	.97	.97	..	.97	.97	..	.95	.94	.93	..	.86	.86	.86	.85	.85
24-24.9	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.21	1.21	1.21	..	1.21	1.21	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.25	1.25	1.25	..	1.25	1.25	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	1.41	..	..	..	..	..	1.35	..	1.39	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	1.47	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	1.53	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	1.59	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	1.65	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	1.71	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	1.77	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	1.83	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	1.89	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	1.95	..	..	..	..	..	..	..	..	..	..	..	..

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OPALINE

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If you sell a motorist Opaline, you are selling not only a good quality motor oil but you are selling *precision* in lubrication.... When a motorist drives in for motor oil you ask him his *mileage*, then you consult the Sinclair Recommendation Index and give him the grade of Opaline which fits the degree of wear in his engine and seals the power in his cylinders. That is the *extra* service Opaline gives a motorist —that is the *extra* reason why a motorist should buy Opaline and why you should sell it. It builds sound business because it gives complete satisfaction. May we tell you the details concerning this common sense method of selling Opaline Motor Oil, exclusive with Authorized Opaline Dealers?

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Also Makers of Sinclair Gasoline and H-C Gasoline

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Atlanta Boston Chicago Houston Kansas City

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	Dec. 18 1928
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.65
30 to 30.9 gravity	.72
31 to 31.9 gravity	.79
32 to 32.9 gravity	.86
33 to 33.9 gravity	.91
34 to 34.9 gravity	.96
35 to 35.9 gravity	1.01
36 to 36.9 gravity	1.06
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.16
39 to 39.9 gravity	1.21
40 to 40.9 gravity	1.26
41 to 41.9 gravity	1.31
42 to 42.9 gravity	1.36
43 to 43.9 gravity	1.41
44 and above	1.46

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.69
32 to 32.9 gravity	.76
33 to 33.9 gravity	.81
34 to 34.9 gravity	.86
35 to 35.9 gravity	.91
36 to 36.9 gravity	.96
37 to 37.9 gravity	1.01
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.11
40 to 40.9 gravity	1.16
41 to 41.9 gravity	1.21
42 to 42.9 gravity	1.26
43 to 43.9 gravity	1.31
44 and above	1.36

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties and that part of Glasscock not included in the Chalk field. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

(Magnolia Petroleum Company)

Mitchell County	$ .80
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.48
Grass Creek	1.48
Rock Creek	1.33
Lost Soldier	.95
Lance Creek	1.48
Mule Creek	1.10
Notches	.65
Big Muddy	1.33
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	$1.65
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

	Dec. 18 1928
Artesia	1.08
Hogback	1.38

CANADA

Oil Springs	2.07
Petrolia	2.00

NORTH LOUISIANA
(The Texas Company)

24 to 24.9 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

LOUISIANA-ARKANSAS
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley**
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company).

	Dec. 18 1928
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 gravity and above	1.76

*Shreveport-Eldorado's postings stop at above 40 gravity.

**Below 36 gravity, the posting on Cotton Valley is 75 cents. From 36 to 52 and above the regular gravity schedule is followed.

STEPHENS
(All Companies)

Below 28 gravity	.75
28 to 28.9 gravity	.79
29 to 29.9 gravity	.83
30 to 30.9 gravity	.87
31 to 31.9 gravity	.91
32 gravity and above	.95

SMACKOVER
(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
American Petroleum Institute Figures (Barrels of 42 gallons)

	Total Month November	Total Month October	Week Ended Dec. 8	Week Ended Dec. 1
AT ATLANTIC COAST PORTS—				
Baltimore	552,000	625,000	118,000	66,000
Boston	481,000	522,000	70,000	71,000
New York	4,011,000	3,982,000	1,199,000	*1,162,000
Philadelphia	908,000	859,000	250,000	98,000
Others	253,000	220,000	65,000	*188,000
Total	6,205,000	6,208,000	1,702,000	1,587,000
Daily Average	206,833	200,258	243,143	226,714
AT GULF COAST PORTS—				
Galveston District	40,000	.....	.....	.....
New Orleans and Baton Rouge	1,115,000	999,000	293,000	*292,000
Port Arthur and Sabine District	139,000	95,000	.....	.....
Tampa	.....	50,000	.....	.....
Total	1,294,000	1,144,000	293,000	292,000
Daily Average	43,133	36,903	41,857	41,714
AT ALL UNITED STATES PORTS—				
Total	7,499,000	7,352,000	1,995,000	1,879,000
Daily Average	249,966	237,161	285,000	268,428

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS
American Petroleum Institute Figures (Barrels of 42 Gallons)

	Total Month November	Total Month October	Week Ended Dec. 8	Week Ended Dec. 1
AT ATLANTIC COAST PORTS—				
Baltimore	640,000	537,000	.....	266,000
Boston	156,000	.....	.....	80,000
New York	762,000	*463,000	318,000	154,000
Philadelphia	546,000	201,000	231,000	.....
Others	213,000	49,000	.....	23,000
Total	2,317,000	1,250,000	549,000	523,000
Daily Average	77,233	40,323	78,429	74,714
AT GULF COAST PORTS—				
Daily Average	1,000	.....	.....	.....
TOTAL—ATLANTIC AND GULF COAST PORTS—	2,347,000	1,250,000	549,000	523,000
Daily Average	78,233	40,323	78,429	74,714
Distribution of Total California Oil Receipts is as follows:				
Crude	73,000	98,000	.....	73,000
Gasoline	1,969,000	1,055,000	413,000	374,000
Gas Oil	134,000	97,000	78,000	.....
Fuel Oil	.....	.....	.....	.....
Lubricating Oil	.....	.....	58,000	.....
Kerosene Distillate	171,000	.....	.....	76,000
Total	2,347,000	1,250,000	549,000	523,000

*Revised.

Christmas
Greetings!
Frick-Reid

"I'm a Hard Boiled Guy

"But believe me I'm sold on the Harrisburg Coupling.

"Harrisburg Forged Seamless Steel Couplings made a hit with me first time I used 'em—and they've kept me satisfied ever since.

"Yet, why shouldn't they? Couplings produced by a company

HARRISBURG

Say you saw it in The OIL WEEKLY

– and Hard to Convince"

that owns and operates its own open hearth furnaces, rolling mills and forge shops ought to be way above the average in reliability, uniformity and dependability. And I'll say they *are!*"

HARRISBURG PIPE & PIPE BENDING CO.
HARRISBURG, PA.

Fully Equipped with Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops

Distributors:

HARRISBURG PIPE & PIPE BENDING CO. OF TEXAS, INC.
Houston, Texas.

HARRISBURG SUPPLY CO.,
Tulsa, Okla.

George J. Hausen, Inc., San Francisco, Los Angeles and Taft, Calif.

Forged Seamless Steel Couplings

Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	8	3	4	3	..	..	4	..	285	1,823
California	10	10	10	7	..	..	..	3	11,750	13,400
Colorado	3	..	3	..	..	..	..	..	175	...
Illinois	2	6	2	4	..	..	..	2	55	42
Indiana	1	5	1	4	..	1	..	..	10	75
Kansas	6	10	4	5	..	1	2	4	525	410
Kentucky	44	39	24	27	3	3	17	9	860	625
Louisiana	19	16	4	6	4	3	11	7	435	510
Michigan	2	8	1	8	..	..	1	..	600	1,515
Montana	7	..	7	..	..	..	..	..	555	...
Ohio	54	55	17	27	27	15	10	13	466	637
Oklahoma	63	77	41	46	5	10	17	21	28,744	18,747
Pennsylvania	52	3	42	1	5	1	5	1	560	400
Texas	165	158	102	90	6	3	57	65	72,046	95,833
West Virginia	29	40	9	10	15	25	5	5	56	60
Wyoming	3	..	3	..	..	..	..	..	600	...
Total	468	430	274	238	65	62	129	130	117,722	134,077
Increase this week	38	..	36	..	3	..	..	..	...	...
Decrease this week	..	..	..	..	..	..	1	..	16,355	...

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CREEK COUNTY—		
Shawver O. & G. Co., Jones 2, SE NW, 26-18-7e	¶10	29 0
C. G. Tibbens, Carmen 1, SW NW, 29-15-9e	*	4105
The Texas Co., McNac 1, SE SW, 3-17-10e	*	3002
Kennedy & Horner, Snow 2, SE, 15-18-11e	*	2181
GARVIN COUNTY—		
Garland et al, Strickland 1, SW NW SW, 10-4-3e	*	3493
HUGHES COUNTY—		
Texas & Pacific Coal & Oil Co., Stewart 1, C SW SE, 11-5-8e	*	3507
KAY COUNTY—		
Ingram & Wilson, Booley 2, NW SE NE SW, 14-27-1e	¶3	673
Slick & Comar Oil Co., Endicott "E" 1, SW cor, 35-25-1w	75	4405
Nehr et al, White 2, C NE SW, 31-28-1e	*	1000
LOGAN COUNTY—		
J. E. Crosbie, Shaffer 1, NW cor, 20-19-4w	¶12	4740
Sinclair O. & G. Co., Weber 2, NE SE SE, 18-19-4w	3272	6125
MUSKOGEE COUNTY—		
W. J. Metzger et al, Harrison 1, NW SW, 13-14-18e	¶1	1118
P. Doyle et al, Lowery 3, NW SW, 9-15-15e	7	1679
H. E. Williams, Roberts 1, CEL SW SW, 9-15-17e	*	1495
Keller & Ingram, Spaulding 2, SE NE SW, 3-15-18e	*	1555
OKFUSKEE COUNTY—		
W. L. Umburn, Simmer 6, NE SE, 11-10-11e	40	2007
Producers & Refiners Corp. & J. I. Carey, Monarye 1, NW NE SE 29-12-10e	1320	2940
OKMULGEE COUNTY—		
A. G. Hazlett, Tucker 6 (OWDD) SE NW SE, 2-13-14e	¶1	1973
J. A. Swindler, Lewis 11, CNL NE SE 20-15-14e	35	1678
H. L. Jolly et al, Serrell 1, (OWDD) SE SW, 33-15-14e	25	1743
L. H. Wentz et al, Densen 1, NE SW SE, 14-14-12e	*	2568
Thompson & Black, Scott 1, SE NW SE, 28-15-11e	*	2915
DeWitt and Baldridge, Francis 1A, SW SE SE, 25-16-13e	*	2369
OSAGE COUNTY—		
Devonian Oil Co., No. 1, NE SE SE, 25-21-9e	25	2097
Silurian Oil Co., No. 52, CSL NE SW NE, 18-23-12e	20	1717
I. T. I. O. Co., No. 402, SW SE SW SW, 28-23-9e	7	355
Phillips Pet. Co., No. 16, NE SW SE, 21-25-12e	15	1725
Carter Oil Co. No. 1, NE SE, 33-26-6e	50	2900
Lewis Prod. Co., No. 1, SW NW, 14-26-6e	65	2987
Kewanee O. & G. Co. No. 13, NE NW NE, 28-27-6e	15	2990
Peters Pet. Co. & Edgewood Oil Co., 2, SE NE SE, 8-21-9e	*	468
Peters Pet. Co. & Edgewood Oil Co. 3, CEL SE SE, 8-21-9e	*	384
Clint Moore Est. No. 5, SW NW NW NW, 16-21-9e	*	420
L. G. Stanley et al, No. 1, SE SW SW, 10-25-8e	*	2440
PONTOTOC COUNTY—		
Ramsey et al, Webb 4 (OWDD) NW SW, 20-5-8e	140	2739
Westhemer & Daube, Wade 7, SE NE SW, 19-5-8e	400	2658
Ramsey, Whitney 2, SE NW, 19-5-8e	955	2021
POTTAWATOMIE COUNTY—		
Magnolia, White 1, SE SW NE, 20-7-5e	42	4389
The Texas Co., Roger 6, CSL SE NW SE, 5-9-5e	20	4378
Sinclair O. & G. Co., Bruno 1, (OWDD) CNL NE, 26-7-4e	725	4275
Independent O. & G. Co. & Darby Pet. Co., Wallace 4 SE SW SW, 14-7-4e	160	3951
Darby Pet. Co., Harber 2, NE SW, 23-7-4e	25	4262
Shaffer O. & R. Co., Cherry 3, SW SE SE, 23-7-4e	717	4389
Sinclair O. & G. Co., Blandin 13, SW cor, 24-7-4e	3495	4230
Galbreath 2, NE SE SE, 25-7-4e	135	4437
Amerada Pet. Corp., Hallum 1, NE SE SE, 1-8-4e	3975	4154
SEMINOLE COUNTY—		
Burke-Greis, Lucy 2, SW NE SE, 18-5-8e	712	2604
Mid Continent Pet. Corp., Smith 2, NE NW NE, 5-7-7e	470	4491
Slick, Wood 1, NE SW, 26-7-6e	1100	4317
Gypsy Oil Co., Cotcha 5, SW NW SW, 23-7-6e	25	4553
Carter Oil Co., Harjo 3, SE SW, 11-7-6e	5	4400
T. B. Slick & W. B. Pine, Coker 1, NW SW SW, 1-7-6e	1005	4132
Magnolia, Gilliam 1, NW NE SW, 13-9-5e	3742	4225
The Texas Co., James 2, SW NW SE, 6-9-6e	4385	4387
Carter Oil Co., James 5, NW NE SW, 6-9-6e	80	4559
Mid Continent Pet. Corp., Nevins 2, NE SE SE, 32-10-6e	1075	4344
Twin State Oil Co., Walker 1, NE NW NW, 4-7-6e	*	4565
STEPHENS COUNTY—		
Pace et al, Bristowe "A" 10, SW NW NE, 18-2s-7w	15	1489
Bristowe "A" 9, SW SE NE NW, 18-2s-7w	160	1505
Lone Eagle Oil Co., Stimpson 7, NE SW NE SE, 34-1s-8w	15	1660
Magnolia, Bell 4, SW SE SW, 13-1s-4w	90	3002
Humble, Peddycourt 5, NE SE NE, 25-1s-4w	105	3146
TULSA COUNTY—		
C. L. McMahon et al, Meyer 1, NE NW NE, 14-19-10e	*	2668

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARTON COUNTY—		
McJilton et al, Evanston 1, se nw, 34-17-11w	*	....
BUTLER COUNTY—		
Empire Oil & Ref. Co., Brandenberger "A" 3, se sw ne, 22-27-5e	150	2746
Empire Oil & Ref. Co., Sherrock 3, ne se sw, 27-27-5e	175	2750
Davis & Hazlett, Lewis 9, se nw sw, 3-27-6e	100	3169
McPHERSON COUNTY—		
Mid-Continent Co., Hawkinson 1, nw se, 32-18-2w	100	2988
RUSSELL COUNTY—		
Eskridge et al, Union Pacific R. R. Co. 1, ne nw ne, 32-13-15w	*	3366

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
CAT CANYON—		
Palmer-Union Oil Co., Stendill 17	200	3570
FRUITVALE—		
Pacific Eastern Oil Co., No. B-6	800	3885
LONG BEACH—		
Robert Bowles Oil Co., No. 4	1200	5985
Shell Co., Martin 5,	650	7475
POTRERO—		
Associated Oil Co., Cypress 3	1000	4650
RICHFIELD—		
Continental Oil Co., Winann 1	150	4500
George W. Johnson, Davenport 1, wo	150	3830
SANTA FE SPRINGS—		
Shell Co., G. H. & N 13	2800	5770
Universal Consolidated Oil Co., Blanchard 8	4600	5740
SOUTH MOUNTAIN—		
Texas Co., Willard 8	100	3430

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
NEVADA COUNTY—		
Humble O. & R. Co., J. Haynie 1, 6-14-20	25	1147
OUACHITA COUNTY—		
Little Fay Oil Co., H. Primm 2, 23-15-16	30	2050
ASHLEY COUNTY—		
Atlantic O. P. Co., Moffatt 1, 28-16-8	*	3951
CHICOT COUNTY—		
S. D. Hunter, Sawyer 1, 19-18-2	*	3321
UNION COUNTY—		
Marine Oil Co., J. F. Sample Co. 4, 7-17-13	200	3085

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO PARISH—		
Magnolia Pet. Co., Robertshaw 23, 23-21-15	30	2785
DE SOTO PARISH—		
Louisiana Public Utilities Co., Rambin 1, 13-12-12	¶2	797
EAST CARROLL—		
Palmer Corp., Carroll Land Co. 1, 21-19-11e	*	3141
MOREHOUSE PARISH—		
Stovall Drilling Co., Etheridge 1, 22-20-4e	¶12	2157
United Carbon Co., Wright 1, 10-20-4e	¶45	2156
RICHLAND PARISH—		
Richland Operating Co., Traylor 1, 24-16-6e	¶4	2474
SABINE PARISH—		
Deem et al, Pickering Lbr. Co., 1, 17-4-11	*	4330
UNION PARISH—		
Carter & Wingfield, Security Trust 3, 23-13-1w	*	3502

At the Holiday Season we gladly pause in our promotion of Tret-O-lite to thank our friends in the oil fraternity for their patronage - and to extend our very best wishes for a Merry Christmas and a Happy and Prosperous New Year.

Tret-O-lite

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W. S. BARNICKEL & CO.
Webster Groves, Mo.

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BAYOU BOUILLON—		
Rycade Oil Corp., Bayou Bouillon 4	90	3345
EAST HACKBERRY—		
Yount-Lee Oil Co., State Land 22..	*	3385
VINTON—		
Vinton Pet. Co., Harmony 15, wo ..	65	2180
Rescue 8, wo	250	2900

TEXAS

TEXAS GULF COAST

BARBERS HILL—		
Humphreys Corp., Cornelia Barber 1	*	860
BIG CREEK—		
Navarro Oil Co., J. H. P. Davis 2..	15	785
BLUE RIDGE—		
South Texas Pet. Co., Davison 4, wo	75	3800
ORANGE—		
Sun Oil Co., Gunstream 4, wo	8	3960
RACCOON BEND—		
Humble-Valley, Grawunder B-1	800	3262
REFUGIO—		
Benedum-Trees, Heard 2	160	3680
W. L. Pearson, O'Brien 1	*	4520
SOUR LAKE—		
Lake View Oil Co., Hardin Co. 58	*	1250
Minor Oil Co., Fee 84	8	1200
SOUTH LIBERTY—		
Gulf, Wm. Chambers Fee 4	*	850
Wm. Chambers Fee 6	118	800
The Texas Co., Staiti 14	125	1070
Sun Oil Co., Mitchell 16	200	1050
Mitchell 20	1000	910
SPINDLE TOP—		
L. A. Painter, Rush-Ewing-Ring 3	*	5290

SOUTHWEST TEXAS

WEBB COUNTY—		
Rycade Oil Corp., Yeager-Strohman 5, Albercas field	1000	2169
DUVAL COUNTY—		
Humble, Kohler 10, sur. 166	¶10	1860
Kohler 11, sur 395	¶15	1861
S. and O. Oil Co., Bowe 1	500	....
STARR COUNTY—		
The Texas Co., Guerra 3-M, blk 91, porcion 68	¶3	205
SALT FLAT—		
J. S. Abercrombie, Moses 2	1028	2728
Gulf, Connally 1	1220	2723
Thurman & Brown, City of Luling	200	....

CENTRAL WEST TEXAS

BROWN COUNTY—		
L. G. Bradstreet & Stout, Stout 15..	15	1195
Humble O. & R. Co., Byler 8	20	1326
Kilgore 7-A	10	1150
Kone Prod. Co., Hickman 20	100	1252
Hickman 21	125	1246
Dr. Lloyd et al, Collier 12	4	428
Meridian Pet. Co., Spence 1	*	1300
Midland Oil Co., Hill 1	*	930
Phillips Pet. Co., Hickman 17	*	1261
The Texas Co., Byler 5	10	1325
Young Bros. Alexander & Woodley Pet. Co., Hickman 13	50	1258
Hickman 16	55	1256
CALLAHAN COUNTY—		
Holmes et al, Hickman 2	*	480
Moutray Oil Co., Hatchett 6	*	395
Prairie O. & G. Co., Gilliland 1	*	1801
The Texas Co., Hatchett 10	40	355
Hatchett 11	25	357
Hatchett 12	*	356
J. C. Van Arx et al, Hart 1	*	1250
COLEMAN COUNTY—		
Continental Oil Co. et al, Overall 9..	*	2174
Harry Gwinnup et al, Casey 1	*	1805
Independent O. & G. Co., Overall 1..	*	2374
Mid-Sun Oil Corp., McClelland 1	*	2706
Mid-West Explo. Co., Gill 1	*	1200
Owens et al, Bannister 1	*	1910
Levi Smith et al, Hill 2-A	15	1860
Tower-McKanna, Inc., Moody 3	75	1862
Turman et al, Kingsberry 1	*	1652
EASTLAND COUNTY—		
Atwood et al, Simmons 1	40	1150
Dale O. & R. Co., Fox 13	45	1610
Root et al, Watson 3	¶½-20	3990
T. P. Coal & Oil Co., P. O. Ranch Fee 3	*	980
Trammell et al, Harrison 1	*	935
SHACKELFORD COUNTY—		
Roeser - Pendleton - Marland, Cook 26-A, (Sec. 61)	50	1340
Cook 2-A, (Sec. 83)	70	1372
Cook 3-A, (Sec. 83)	40	1365
The Texas Co. et al, Sedwick 4	6	554
STEPHENS COUNTY—		
Thomas et al, Satterfield 1	*	3590

TEXAS PANHANDLE

GRAY COUNTY—		
Adams Oil Co., Morse 2	120	2581
Danciger O. & R. Co. et al, Morse 3	¶15	2607
J. A. Gardner-Collins et al, B. Bull 1	100	2789
Lefors Pet. Co., Shaw 8	125	2753
The Texas Co., McLarty 3-A	90	2560
HUTCHINSON COUNTY—		
Rock Creek Oil Co., Johnson 2	225	2937
WHEELER COUNTY—		
White et al, Shelton 1	*	2700
J. O. Whittington et al, Williams-Laycock 2	¶55	2012

NORTH TEXAS

ARCHER COUNTY—		
L. T. Burns et al, Wilson-McCrory 1-K	*	1485
Continental Oil Co., J. E. Parrish 2-A	15	1600
Gulf Prod. Co., W. O. Hayter 7-A..	*	1444
T. F. Hunter et al, C. Krebs 1	*	1750
O. R. Jeffers et al, Wilson 1	*	1604
D. O. Johnson et al, Wilson 10-B...	55	1570
Rogers & Kelleher, A. F. Marsh 1...	*	1450
The Texas Co., R. E. Hill 22	85	1423
C. A. Montgomery 1	*	1501
W. C. Young et al, W. H. Taylor 1	3	424
BURKBURNETT—		
C. A. Everts et al, M. Dodson 1	*	1395
Magnolia Pet. Co., J. W. Donohue 11	10	1288
COOKE COUNTY—		
W. E. Benson et al, W. H. Daugherty 1	*	1998
Green & Skelly Oil Co., Ball 2	*	1218
Petroleum Prod. & United Prod. Co., A. J. Dennis 1	75	1260
ELECTRA—		
W. H. Hammon et al, McCarty 12-C	80	1353
McCarty-Scott 10	*	736
Harry Hines et al, Wm. Guthrie 1...	*	2206
Waggoner Bros. 14	40	1392
Red River Oil Co., Bywaters 70....	100	1923
GRAYSON COUNTY—		
W. C. Knox et al, Badgett 1	*	150
Simpson-Fell Oil Co., Wall 3	¶4¼	881
K-M-A & IOWA PARK—		
Carl B. Bailey et al, Munger 28....	80	1081
C. W. Clark et al, Allen-Kemp 3	*	500
Allen-Kemp 4	*	508
Coleman & Coppock, K&K 17	325	1488
Hammon & Garrett, Mitchell 3	45	1814
American Ref. Fee 3	3	198
Regal Oil Co. & Clark, Martin 1 ..	10	1401
United Prod. Co., Hodges 1-B	45	1497
K. & K. 1	115	1490
MONTAGUE COUNTY—		
Pure Oil Co., L. Keck 9	25	831
THROCKMORTON COUNTY—		
McCurdy et al, Reynolds 3	*	1403
WILBARGER COUNTY—		
Baker et al, Waggoner 9-B	200	1889
Waggoner 2-C	*	1954
Cosden & Co., Waggoner 28-B	25	2448
Waggoner 30-B	40	2322
Fain-McGaha Oil Corp., Waggoner 1-AA	50	2432
Waggoner 23-S	450	2459
Waggoner 1-V	*	2402
J. A. McKanna et al, Waggoner 3-A	115	1847
Phillips Pet. Co., Waggoner 3-II	30	2396
Waggoner, Anna 1	70	2575
Prairie O. & G. Co., Waggoner 7-B..	110	2295
Shaw Oil Co., Waggoner 1-E	415	2414
Staley-Wynne & Co., Waggoner 1-G	140	1853
The Texas Co., Waggoner 16-E	110	2392
Waggoner 1-L	*	2725
Waggoner Ref. Co., Waggoner 11-E..	110	2311
YOUNG COUNTY—		
Bundy et al, Bryan 1	*	754
Dorian et al, Boone 12	15	517
Johnson 2	3	568
Gulf Prod. Co., J. W. Bullock 1	*	1504
Holbrook & Woods, Watson 4-B	25	564
Watson 5-B	10	577
Magnolia Pet. Co., Johnson 6	*	678
Pennell & Holcomb, Jones 1	*	540
Petroleum Prod. Co., Parrish 2-B...	*	1230
Pitzer & West, Bryan 1	40	2117
Rhodes et al, Moreland 1	*	650
Riggs et al, Sweet 8	30	562
Ulrey et al, Barrett 1	*	648
Underwood Drl. Co. et al, Campbell 2	18	882
Campbell 3	17	905
United Royalty Co. et al, Taylor 1..	*	4551

WEST TEXAS

CRANE COUNTY—		
Gulf Prod. Co., J. T. McElroy 57....	160	2935
HOWARD COUNTY—		
American-Maracaibo Co., Settles 1-B	365	2941
Magnolia Pet. Co., Roberts 14	800	2985
Marland Prod. Co., Roberts 1	1765	3041
Marland & Group One Oil Corp., Settles 5-A	205	2959
PECOS COUNTY—		
Mid-Kansas-Trans-Continental, Yates 7-H	13000	1700
REAGAN COUNTY—		
Big Lake Oil Co., University 145 ...	115	2911
University 148	75	3028
Skelly Oil Co. et al, University 3...	50	3095
WINKLER COUNTY—		
Atlantic Oil Prod. Co., Hendrick 5-A-E	30,000	2664
Eastland Oil Co., Hendrick 1-B	150	3146
Marland Prod. Co., Hendrick 1-B...	150	3065
Hendrick 1-C	*	3155
Prairie O. & G. Co., Cowden 3	6000	2870
Shell Pet. Corp., Hendrick 6-F	670	3050
Skelly Oil Co., Hendrick 2-B	15	3142
Southern Crude & R. A. Westbrook, Hendrick 6-A-T-88	1680	2978
Hendrick 2-E-T-89	700	3108
Hendrick 6-M-T-88	700	2762
Hendrick 26-M-T-88	3240	2817
Hendrick 1-O-T-88	220	2800
Hendrick 3-T-T-88	20	3165
Hendrick 6-U-T-88	500	2950

ROCKY MOUNTAIN STATES

MONTANA

PONDERA—		
Continental Development Co., Gjullin 7, nw 15-27-4w	50	2000
Rice Burke, P. V. S. V. 6, nw 15-27-4w	60	2000
Texas Prod. Co., Copley 5, 15-27-4w	65	2000
Kingsbury 4, 15-27-4w	65	2000
Midwest Refining Co., 6, se 15-27-4w	200	2000
18, nw 14-27-4w	65	2000
CAT CREEK—		
Continental Oil Co., Brown 9	50	1250

WYOMING

OREGON BASIN—		
Cody Petroleum Co., Klindt 5, 7-51-100	500	3704
OSAGE—		
McCullogh et al	50	....
Osage Trust Co. on Jones lease	50	....

COLORADO

FLORENCE—		
Continental Oil Co., McKenzie 3, nw 1-19-70	50	1250
FT. COLLINS—		
Union Oil Co., Scott 3, 6-9-68	115	4345
TOW CREEK—		
Texas Production Co., State-Oliver 1, 18-6-86	10	3165

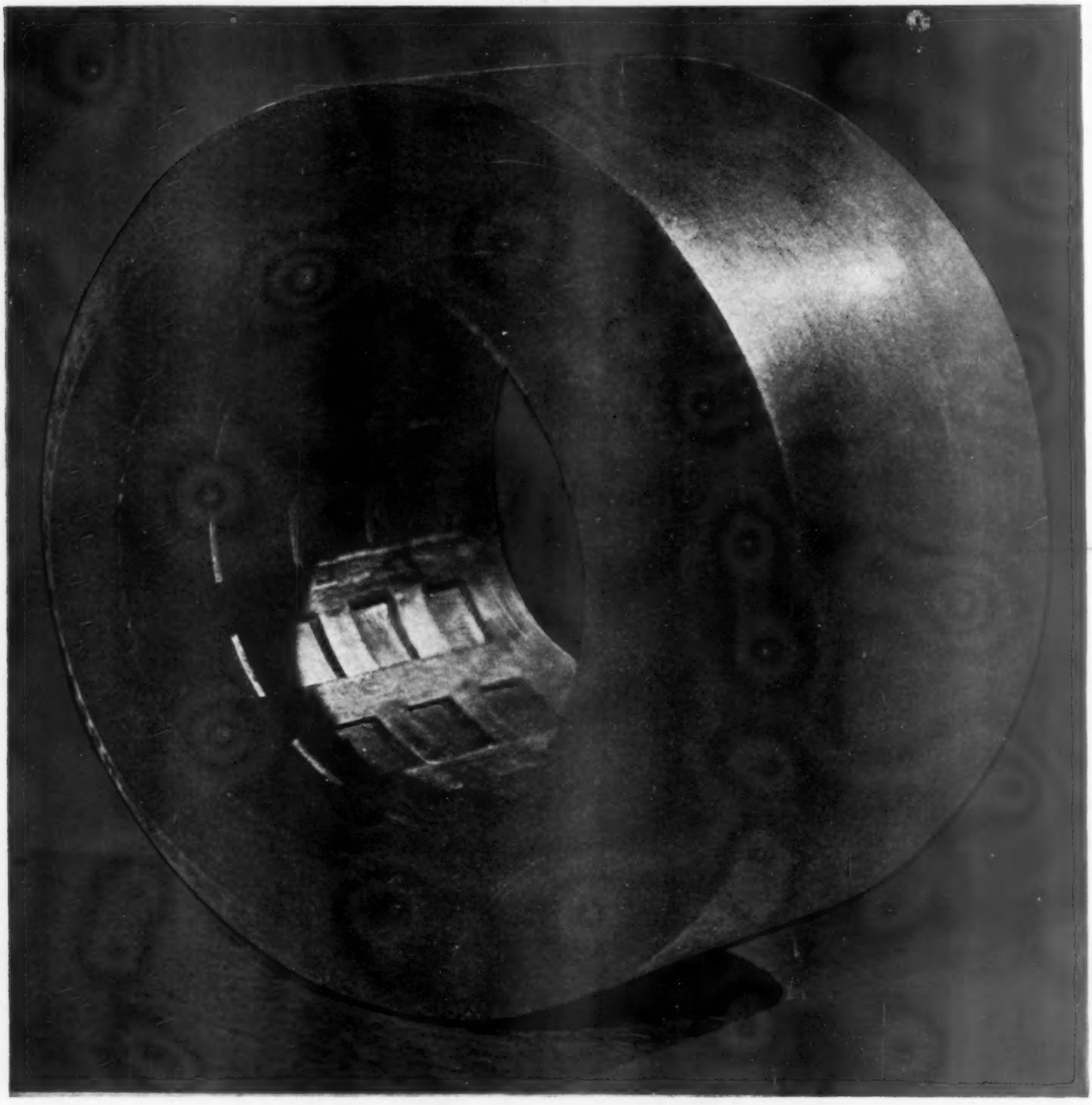
EASTERN STATES

PENNSYLVANIA

BRADFORD COUNTY—		
South Penn Oil Co., Bingham 439, tr 117	3	....
Bingham 410, tr 39	2	....
Bingham 410, tr 40	3	....
Bingham 423, tr 17	2	....
Bingham 151, tr 40	2	....
Bingham 151, tr 41	4	....
Bingham 450, tr 96	2	....
Bingham 450, tr 97	2	....
Bingham-Satterfield 145	3	....
Bingham-Satterfield 146	3	....
Newell 85	2	....
Culbertson 78	2	....
H. E. Smith 175	2	....
H. E. Smith 176	2	....
Zook & Sloan, Potter G-6	2	....
Potter D-7	2	....
Potter I-2	2	....
Potter B-4	Pressure	....
McKean Trust Co., Bingham 386, tr 42	3	....
Bingham 386, tr 43	7	....
Bingham 386, tr 44	Pressure	....
D. T. Andrus & Co., Bingham 1	9	....
Bingham 2	8	....
McDowell & Andrus, Bingham 329, tr 124	4	....
Knabb & Tanner, Griffith 1	12	....
J. W. Kaufman, Rasey 1	13	....
D. W. Daly, Bingham 69	3	....

Company, Well and Location	Initial Production Bbls.	Depth
VENANGO COUNTY—		
J. C. Yanke, Noel 7	3	....
Crawford & Co., Crawford 82	3	....
M. F. Rughner, Shoup 2	4	....
Z. T. Call, Call 26	2	....
F. E. Kapp & Co., Kapp 13	*	....
King & Co., King 1	*	....
Oil City Nat. Bank, Splane & Co. 36	2	....
Splane & Co., 37	2	....
S. Y. Ramage, Stiles 75	2	....
BUTLER COUNTY—		
Phillips O. & G. Co., Penrose 1	400	....
Morgan & Co., Morgan 4	5	....
R. B. Donaldson & Co., Donaldson 3	4	....
M. W. Graham & Co., Campbell 16.	3	....
O'Neil & Co., Steighner 1	*	....
T. P. Bell, Bell 2	¶1½	....
Chas. Hindebrand, McKeever 1	¶1¼	....
J. C. Trees, Purvis 3	¶1½	....
CENTER-MIDDLE FIELD—		
Reig & Hickey, No. tr 8	14	....
Clinger & Co., Johnson 13	7	....
E. Pequignot, King 19	*	....
Rocky Grove Oil Co., Bingham 19..	2	....
Clarendon Producing Co., No. 109, Lot 21	2	....
GREENE COUNTY—		
Carnegie Nat. Gas Co., Price 1	*	....
BROWNSVILLE FIELD—		
Greensboro Gas Co. & Hackney, Porter 1	¶8	....
CLARION COUNTY—		
K. L. Smith & Co., Smith 2	3	....
George Stubler & Co., Stubler Heirs 8	3	....
Hess & Co., Cohlheep 1	¶1	....
WEST VIRGINIA		
RITCHIE COUNTY—		
Park Bowser, Haines 2	¶1	....
R. B. & R. Oil Co., Layfield 1	2	....
Philadelphia Oil Co., Britton 2	15	....
M. S. Young & Co., Richards 2	4	....
Imperial Oil & Gas Co., Iams 1	3	....
WETZEL COUNTY—		
Hope Nat. Gas Co., Long 1	5	....
Pittsburg & West Virginia Gas Co., Pettitt 1	5	....
West Va. Continental Oil Co., Cochran 3	15	....
Benedum & Trees, Tennant 1	*	....
Geo. Barnum & Co., Blair 1	*	....
ROANE COUNTY—		
United Fuel Gas Co., Goshorn-Brown 1	¶2	....
United Carbon Co., Harold 1	¶2	....
Valley Gas Co., Perot 3	2	....
Producers O. & G. Co., Harper 1	*	....
LINCOLN COUNTY—		
United Fuel Gas Co., Maddox 1	¶¾	....
Thomas 1	¶½	....
L. R. Sweetland, Sweetland 32	¶½	....
CALHOUN COUNTY—		
W. H. Bickel, Stalnaker 1	¶1½	....
Dunbar O. & G. Co., Laughlin 2	¶1¼	....
F. F. McIntosh, Fox 2	*	....
MARSHALL COUNTY—		
Manufacturers Light & Heat Co., Pipes 1	¶1¼	....
Cully 1	¶1½	....
GILMER COUNTY—		
McCall Drilling Co., Riddle Bros 2.	5	....
KANAWHA COUNTY—		
United Fuel Gas Co., Queenland 1	¶1	....
DODDRIDGE COUNTY—		
Pittsburg & West Virginia Gas Co., Brandon 1	¶½	....
MINGO COUNTY—		
Public Gas Corp., Logan Cannal Coal 27	¶1¼	....
UPSHUR COUNTY—		
Laurel Fork Oil & Gas Co., Burke 1	¶¼	....
CABELL COUNTY—		
West Virginia Gas Corp., May 1	¶1	....
LEWIS COUNTY—		
H. B. McGinnis, Anderson 1	*	....
ILLINOIS		
WABASH COUNTY—		
Tracy Heirs Oil Co., Tracey Heirs Heirs 4	50	1432
LAWRENCE COUNTY—		
Phipps, Blosser & Co., Clark 5	5	1003
MICHIGAN		
MUSKEGON COUNTY—		
Puritan Oil Co., Overkamp 1	600	2046
Johnson O. & R. Co., Savacool 1	*	2095
KENTUCKY		
OHIO COUNTY—		
James E. Ellis, Keith 8	100	700
Weller 36	40	650
Weller 37	40	652
New Domain O. & G. Co., Royal 1.	35	....
Royal 2	35	....
Wood Oil Co., Inc., Duke 4	30	462
Duke 5	60	444
Ohio Oil Co., Gray 6	35	....
Penn-Indiana Oil Co., First Nat. Bank land 2	15	....
Chester Oil Co., Brandon 1	15	....
Wiser Oil Co., Wells 1	*	....
Claypool & Co., Harrison 1	¶2	....
K. M. Dole & Co., Muffet 1	¶1	....
Walter Chenault & Co., Edge 1	*	750
DAVIESS COUNTY—		
Creek Drilling Co., Howard 2	140	....
Tyler 7	*	....
Eastern Gulf Oil Co., Roby 1	*	....
M. B. French & Co., Howard 3	55	....
Howard 4	*	....
L. C. Young, Yeiser 5	25	....
Park 4	12	....
McMahon & Co., Fuqua 2	45	....
Imperial O. & G. Products Co., Hayden 4	20	....
Sharp 1	*	....
Wade & Moore, Beard 2	40	....
C. E. Daugherty & Co., Davis 2	8	....
Jetson Oil Co., Jones 6	*	....
James T. Ellis, Anderson 1	*	....
Mecca Oil Co., Bryant 1	*	....
Wm. Stevenson, McCandless 1	*	....
Evans & Garrison, Trodgen 1	*	....
D. C. Stimson & Co., Irwin-Slagle 2	*	....
Goldburg, Young & Co., Riddle 1	*	....
Wood Oil Co., Inc., Sands 1	10	....
Tops Dev. Co., Taylor 1	60	....
Goldburg & Co., Purcell 2	5	....
Ohio Oil Co., Roby 12	30	....
Weller 2	*	....
ALLEN COUNTY—		
Mid-Southern Oil Co., Woods 32	3	287
Snowden & McSweeney, Oliver 32	2	423
Rehr & Ogle, Grubbs 16	*	340
J. D. White, Williams 9	*	320
MORGAN COUNTY—		
Petroleum Explo. Co., Wright 1	*	....
OWSLEY COUNTY—		
Petroleum Explo. Co., Marcum 1	¶1½	....
SOUTHEASTERN OHIO		
WASHINGTON COUNTY—		
Shay McMullen & Co., Smith 6	¶¼	2006
Buckley & Co., Smith 2	*	1965
Gasoline Products Co., Penrose 2	*	....
Mendenhall Bros., Mendenhall 1	2	....
Herman Schramm & Co., Ward 8	5	....
Hill Top Oil & Gas Co., Cochran Heirs 4	¶¼	....
Sewingle Bros., Greenwood 1	2	....
MORGAN COUNTY—		
Ohio Fuel Gas Co., Harper 1	¶¼	1651
Bowman O. & G. Co., Spurrier 2	¶¼	1681
The Kemrow Co., Hoffman 4	¶½	1493
Hollowell & Co., Ball 1	¶¼	1564
MONROE COUNTY—		
Woodsfield Gas Co., Turner 3	¶½	1964
Gruber & Myers, Robbins 2	¶¼	1400
NOBLE COUNTY—		
Mercer O. & G. Co., Crum 4	4	....
CENTRAL OHIO		
ATHENS COUNTY—		
Cross & Co., Ohio State Land 15	2	....
Ohio Fuel Gas Co., Phillips 2	¶½	1445
Orondoff & Co., Thompson 1	¶½	1355
Green 1	¶¼	1418
Logan Gas Co., Searles 2	¶½	1287
Stewart & Ross, Blackwood 2	¶¼	1118
Kiggins & Co., Linscott 1	¶¼	1341
PERRY COUNTY—		
William Kline & Co., Burley-Winters 4	180	....
Berlin & Bryan, McKeever 3	7	3505
Witmer O. & G. Co., Curry 1	*	2960
Preston Oil Co., Sunday Creek Coal 47	64	3566
German 1	¶¼	3611
Wehrle O. & G. Co., Wilson 5	*	981
LICKING COUNTY—		
H. C. Farmer, Farmer 2	3	....
Preston Oil Co., N. E. Morris 2	53	797
Wright 9	6	674
Heisey Gas Co., Wallas 2	*	2659
MUSKINGUM COUNTY—		
Hope Construction & Refg. Co., Helphrey 3	42	3023
Wm. Kline & Co., Spring 1	*	3764
Pure Oil Co., Klein 3	¶½	1802
COSHOCTON COUNTY—		
Ohio Fuel Gas Co., McKelvey 1	8	....
Logan Gas Co., King 1	*	....
ASHLAND COUNTY—		
Ohio Fuel Gas Co., Hazlet 1	*	2935
McConnell 1	¶½	2451
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Douglass 2	¶2¼	....
Cates 1	¶¼	....
WAYNE COUNTY—		
Ohio Fuel Gas Co., Ruse 1	¶1½	....
Harmon & George, Hileman 2	¶¼	....
LORAIN COUNTY—		
Daugherty & Co., Schummelman 1	¶¼	....
Pittsfield O. & G. Co., Solet 1	*	....
KNOX COUNTY—		
Arkansas Gas & Fuel Co., Rinehart 5	59	2024
HOCKING COUNTY—		
Peston Oil Co., Sunday Creek Coal Co. 48	18	....
SUMMITT COUNTY—		
F. A. Brendall & Co., Boettler 1	¶1½	....
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Cambridge Colleries 6	¶½	1165
JACKSON COUNTY—		
Wittmer Oil & Gas Properties, Jenkins 1	¶2½	2666
LAWRENCE COUNTY—		
Inland Gas Corp., Heckla Iron & Mining Co. 1	¶¼	2982
MEIGS COUNTY—		
Pure Oil Co., Klein 3	¶½	1802
FAIRFIELD COUNTY—		
Perry Diurm & Co., O'Hare 2	*	2718
NORTHWESTERN OHIO		
VAN WERT COUNTY—		
D. S. Bassett, Jones Davis 13	10	1255
WOOD COUNTY—		
Daley Oil Co., Daley 3	1	1243
SENECA COUNTY—		
Geyer & Shaul, Smith 1	*	1495
INDIANA		
SULLIVAN COUNTY—		
King Tut Oil Co., Mayfield 2	10	2274

Cody, Wyo.—The Ohio Oil Company has 3300 feet of black oil standing in its 4767-foot hole on Shoshone structure, three miles east of Cody. The well is being drilled in at this depth. This discovery is apparent proof of the field, another in Wyoming's long list of black oil areas. This well has a small production of light oil in the Frontier sands. The present production is coming from the Embar which was topped at 4752 feet. The well is 10 or 12 miles north of the Oregon Basin field which has its largest production in the bottom of the Embar and the top of the Tensleep, and it is the company's plan to deepen the Shoshone well to this horizon.



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The seamless protector that grips the drill pipe tightly

Bettis Protectors - The

Unbiased Judgment

The Superintendent of one of the largest companies operating in the Mid-Continent and Gulf-Coastal fields, makes the following interesting report on Casing Protectors used on Drill Pipe.

"To summarize all the benefits to be obtained by using rubber casing protectors would take a long time; however, the principal ones are:

"1. Lessens the load both going in and coming out and so saves the drilling line and other equipment.

"2. Reduces fuel and steam consumption and thus lowers drilling cost.

"3. Saves casing from wear by tool joints and eliminates the hazard of collapsed casing, water breaks, etc.

"4. Saves tool joints and collars from wear on casing and minimizes hazards of twist-offs and fishing jobs. Also makes breaking out easier.

"5. Makes straighter hole because rings act as guides as well as Protectors."

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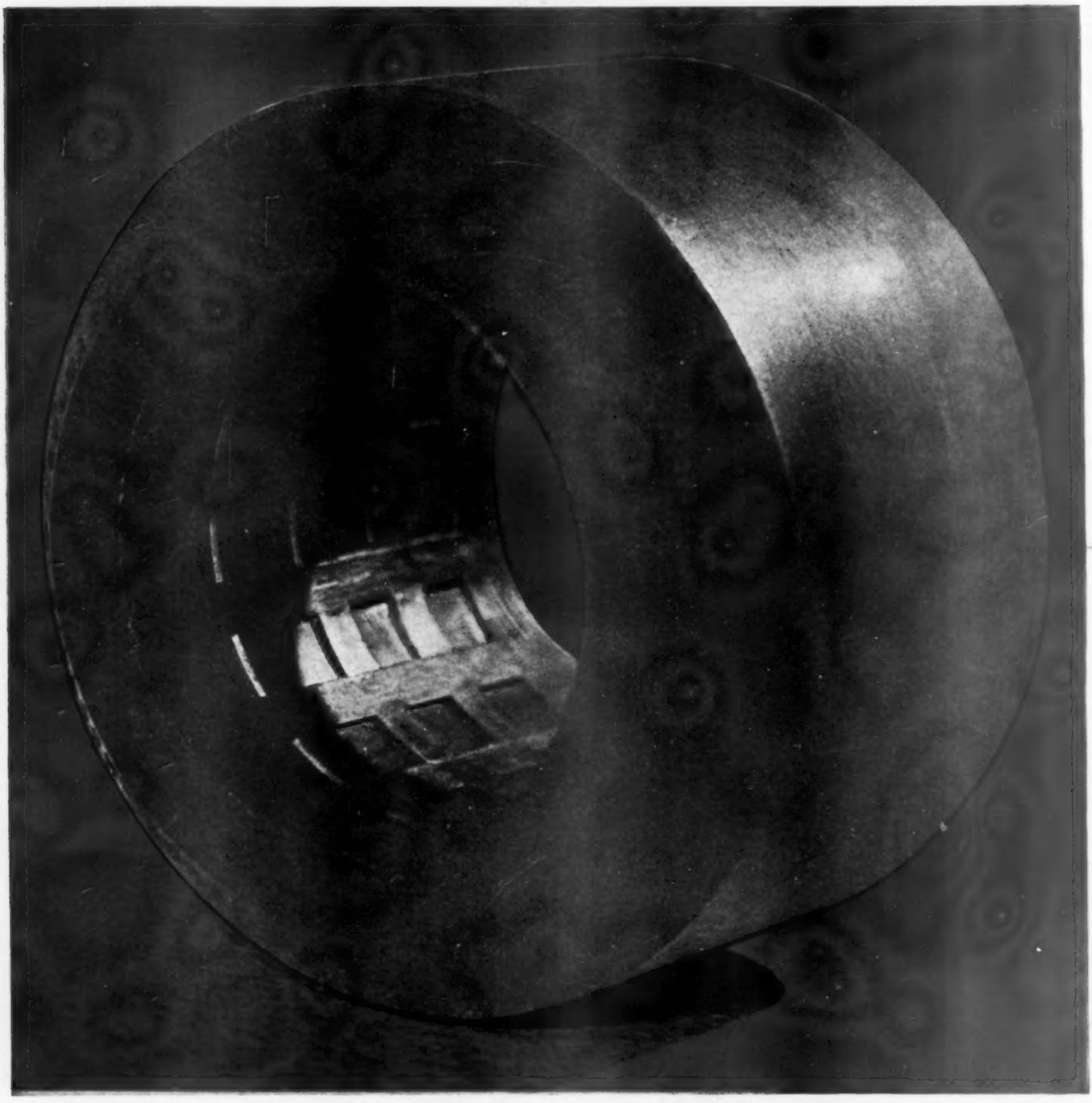

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genuine anti-friction Rubbers

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Dec. 15	Previous week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	4	8	18	325	2	18	322	329
California	26	13	65	1,160	35	101	1,173	1,226
Louisiana	11	10	43	661	15	53	794	812
Kansas	6	12	38	995	20	60	929	972
Oklahoma	73	84	228	3,577	57	183	3,590	3,702
Texas	199	198	572	7,966	128	462	8,457	8,665
Mountain States	..	..	..	..	..	..	431	494
Total	319	325	964	14,682	257	877	15,696	16,149

ARKANSAS

UNION COUNTY—Pure Oil Co., M. H. Nash 1, 2970 ft s and 990 ft n nec, Sec. 7-17-13. Rovenger Oil Co., W. H. Perdue B-1, 330 ft n and 330 ft e swc se ne, 9-17-14. H. L. Hunt, Inc., Gregory 6, 150 n and 150 ft w sec se sw, 10-17-14. Pure Oil Co., W. E. Gregory 6, 240 ft s and 2360 ft w nec of Sec. 15-17-14.

OKLAHOMA

BECKHAM COUNTY—Magnolia, Davis 2, SW NW SE, 21-9n-3w.

CARTER COUNTY—Humble O. & R. Co., Dixon 6, NW SW NW, 30-1s-3w.

COTTON COUNTY—Jenkins et al, Record 2, NW NE SW, 6-2s-10w.

CREEK COUNTY—Gray Oil Co., Ramsey 2, SW NE SE, 10-14-10e. McCulloch Oil Vo., Venci 2, SW NW NE, 31-14-9e. Skelly Oil Co., Watson 1, (owdd) NE SW SW, 15-14-8e. Flynn & Morgan, Clark 1, NW NE SW, 17-14-8e. Madden & Madden et al Childers 1, NW NE, 24-15-9e. Jackson & Wise, Frank 1, SW cor, 1-17-11e. G. Collins, Townlot 1A, (TWIN) CWL SW NE NE, 3-17-11e. H. H. Taylor et al, Goat 1, SW NW SE, 31-18-11e; Shaffer O. & R. Co., McIntosh 1; SE NE NW, 26-18-7e; H. U. Bartlett, Sewell 1A, NE cor, 18-19-9e; Smith & Steinberger, Asbury 1, NW NE SE, 8-19-7e.

HUGHES COUNTY—Magnolia Reed 4, SE SW NW, 17-5-8e.

KIOWA COUNTY—W. C. Adams, Hamilton 1, NW cor SW, 2-6-17w. Aregood et al, Finney 1, NE SW SW, 8-6-16w.

LOGAN COUNTY—Sinclair O. & G. Co. et al, Gragg 1, SW cor, 15-18-4w. Shell Pet. Corp., Freelove 3, SW NW SE, 17-19-4w. Sinclair O. & G. Co., Weber 4, SE NE SE, 18-19-4w.

MUSKOGEE COUNTY—W. J. Metzger et al, Taylor 1, CEL NE SE, 14-14-18e. W. J. Metzger et al, Francis 5, CNL SW SW, 1-14-18e. Mack Drilling Co., Friday 1, SE NE, 7-15-15e

OKFUSKEE COUNTY—Minnehoma Oil Co., Johnson 1, SE NW, 34-11-11e; Champlin Ref. Co., Carter 13 (OWDD) NE SE SW, 15-11-11e. Pure Oil Co., Anderson 1, NE SE, 23-11-10e. Producers & Refiners Corp., & J. I. Carey, Monarye 2, SW NE SE, 29-12-10e. C. L. McMahon, Fixico 2, SW NF SE, 29-12-10e. Champlin O. & R. Co., Campbell 1, SE NE SW, 29-12-10e.

OKMULGEE COUNTY—J. K. Leard et al, Calloway 1, NW NE NW NE, 19-11-13e. J. H. Rebold et al, Scott 2, SW NE SW NE, 27-13-11e. Shaffer O. & R. Co. et al, Bell 1, SW NE, 30-14-12e. J. A. Swindler, Lewis 1, NW NE SE, 20-15-14e. W. B. Pine et al, Bighead 4, CNL SE SE, 9-15-12e.

OSAGE COUNTY—Okla. Natural Gas Co., No. 166, NE SW SW, 27-21-11e. McCune et al, No. 1, NW S WNE, 15-24-8e. Atlantic Oil Prod. Co., No. 1, NE SW NE, 19-24-8e (OWDD). Peters Pet. Co., No. 7, CEL W/2 NW, 26-25-9e; No. 8, C NW, 26-25-9e. Lewis Production Co. et al, No. 2, NW SW, 14-26-6e. Carter Oil Co., No. 1, NW SW, 34-26-6e.

PAWNEE COUNTY—Kennedy & Horner, Kender 2, C NE NE, 13-20-9e.

PAYNE COUNTY—T. B. Slick et al, Anderson 1, NE NW, 3-17-6e.

PITTSBURG COUNTY—B. C. Aylor et al, Martin 1, SE NW, 6-6-14e.

PONTOTOC COUNTY—American Oil & Ref. Co., Robertson 1, NW NE SW, 19-5-5e. Louisiana O. & R. Co., Perry 20, SW NW NE, 19-5-8e.

POTTAWATOMIE COUNTY—Gypsy Oil Co., Blandin 2, NW NE, 31-7-5e. Independent O. & G. Co., Harding 2, NE SE NW, 18-8-5e. Sinclair O. & G. Co., Blandin 1, (OWDD), NW SW, 24-7-4e; Blandin 4, (OWDD) NW SW SW, 24-7-4e; Blandin 11, (OWDD), SW SE SW, 24-7-4e.

SEMINOLE COUNTY — The Texas Co., Lucy 7, NE NW NE, 19-5-8e. Sinclair O. & G. Co., Peters 2, NE NW NW, 18-r-8e, (OWDD). The Texas Co., Lewis 1, SW SE NW, 13-5-7e. Blackwell O. & G. Co., Fleet 2, SE SW NW, 13-5-7e. T. B. Slick, Simons 1, NE cor, 26-6-6e. Shell. Pet. Corp., Glass 1, NW SE, 26-7-6e. Barnsdall Oil Co., Barkus 1, SW NE, 26-7-6e. Gypsy Oil Co., Johnson 1, NE NW SW, 15-8-5e; Wisner 2, SW NE, 13-9-5e. Empire O. & R. Co. and Marland Oil Co., Anderson 1, NE SE SW, 13-9-5e. T. B. Slick & Skelly Oil Co., Campbell 7, SW NE NW, 6-9-6e; Campbell 6, NW E NW, 6-9-6e. Sinclair O. & G. Co., Thompson 1, NE SW, 18-9-7e. Shaffer O. & R. Co., James 1, SE NW, 15-9-7e. Mid-Continent Petroleum Corp., Saloche 6, NW SW SW, 33-10-6e; Nevins 3, NW SE SE, 32-10-6e.

STEPHENS COUNTY—Pace et al, Green 1, NW SW NE, 2-2s-8w. Bunn-Marvin Drilling Co., Williamson 1, NE NW SE, 12-1n-6w.

TULSA COUNTY—C. O. Buckels et al, Brown 2, C NW SW, 7-17-13e. E. P. Bailey et al, No. 1A, Unallotted, CNL SW, 34-19-11e.

WAGONER COUNTY—Peterson & Young, Mitchell 1, SW NW, 24-16-16e. Elk Drilling Co., Childers 7, NW SW NW, 22-18-17e.

KANSAS

BUTLER COUNTY—Empire O. & R. Co., Huston 15, NE SW SW, 19-26-5e. Henderson & Holden, Morgan 2, SW SE, 14-27-5e.

SEDGEWICK COUNTY—Thos. W. Flake et al, Van Vrew 1, SE cor, 18-26-1e. Bu-Vi-Bar Pet. Co. et al, Lyon 3, NW SW, 7-26-1e; Wright 2, NE SE, 12-26-1w.

SMITH COUNTY—Mid-Kansas O. & G. Co., Blank 1, NE cor, 4-2s-13w.

LOUISIANA

ASCENSION PARISH—Gulf Refg. of La., Houston, Texas, United Lands Co., 13, 15-10s-4e, apprx 1310 ft n and 3200 ft e of SW C.

CADDO PARISH—Woodley Pet. Co., Shreveport, Mack Whitehurst 3, Twp. 16N-Rge. 12 W, 21,930 ft e and 2683 ft n of SW C Twp 16N.

EAST CARROLL PARISH—Palmer Corp. of La., Shreveport, Mitchner 1, 8-19n-11e, 1320 ft s and 1320 ft e of NW C.

MOREHOUSE PARISH—Amalgamated Co., Monroe, La., Fairly , (changed lcn) 53-20n-4e, 3410 ft w and 660 ft n of SE C, Sec. 13 in Sec. 53.

OUACHITA PARISH—Ouachita Nat'l Gas Co., Monroe, L. L. Lieber 5, 4-19n-4e, 760 ft s and 1055 ft w of NE C.

SABINE PARISH—R. L. Gay, Trustee, Zwolle, Bowman-Hicks 2, 14-7n-14w, 200 ft n and 200 ft e of SW c, SE NE; Sabine Lbr. Co. 1, 13-7n-14w, 886 ft n and 500 ft e of SW C NW SW.

ST. JAMES PARISH—U. S. Mineral Dev. Co., Inc., Reynaul Co. 1, 1-12s-4e, 262 ft n and 1050 ft e of SW C.

ST. LANDRY PARISH—The Texas Co., Botany Bay Fee 1, T. 6s-R-5e, apprx 8100 ft s and 3200 ft w of NEC T-6-s.

ST. MARTIN PARISH—Rycade Oil Corp., Houston, Texas, Bayou Bouillion 6, 13-9s-8e, 3025 ft n and 1550 ft w of SE C.

WEBSTER PARISH—Northwest La. Gas Co., Pinewoods Lbr Co. 9, 34-23n-11w, 200 ft s and 200 ft e of Center of SE.

TEXAS

ARCHER COUNTY—Spencer, Rhoads & Strong, Wichita Falls, Cernosek 1, 2409 TE&L sur, 150 ft from s and e lines. Gulf Prod. Corp., Fort Worth, Hayter A 8, 2409 TE&L sur, 150 ft from s and w lines. Continental Oil Co. & Republic Prod. Co., Wichita Falls, Oldham 6, E. Hubbell sur, 400 ft s of No. 5. Raggett Bros. et al, Archer City, Kinder 2, B 5 C&P sur, se cor.

ANDERSON COUNTY—J. S. Cosden, Inc., Fort Worth, Douglas 2, I. Simpson sur, 150 ft from s and e lines.

BROWN COUNTY—Lingwood Oil Co., Okmulgtt, Okla., Lehman 1, S 15 HT&B sur, 150 ft from n and 1111 ft from w line. Olvey & Robbins, Fort Worth, Nash 1a, No. 1 CEP&M sur, 2390 ft from sw and 550 ft from se line. J. A. McCartney, San Angelo, Suttles 1, S 140, R. Mitchell sur, 450 ft from n and w lines. Amerada Pet. Corp., Cisco, Guthrie 1, A. Arrocha sur, 800 ft from nw and 150 ft from sw line. Mac T. Anderson, Rising Star, Wheeler 1, No. 91 J. L. Lively sur, 330 ft from w and 300 ft from s line. F. L. Armstrong et al, Edificio Garcia, Tampico, Tamps., Mexico, Armstrong 1, No. 1 H&GN sur, 150 ft from n and e lines. Kennard, Britt & Beatty, Brownwood, Bull 1, S 44 T&NO Ry sr, 175 ft from w and 150 ft from n line. Crown Oil Corp., Brownwood, Camp 4, S. D. Camp sur, 150 ft from n and w lines. C. J. Bryant, Brownwood, Mays 1, No. 609 J. M. Ross sur, 200 ft from n and 900 ft from e line. Amerada & Roeser & Pendleton, Inc., Fort Worth, Mauldin 1, J. Padillo sur, 150 ft from n and 450 ft from w line. Young Bros. & Alexander & Woodley Pet. Corp., Fort Worth, Armstrong 7, S 151, P. Curlong sur, 300 ft n of No. 6; Hickman 17, No. 783 T. Benson sur, 300 ft nw of No. 9; No. 18, 300 ft nw of No. 12; Butler 3, No. 801 J. McGloin sur, 450 ft from s and e lines. E. H. Ramsey, Rising Star, Henson 5, G. Logan sur, 750 ft from n and 450 ft from e line. C. C. Outhier et al, Brownwood, Anderson 4, No. 282 S. Jones sur, 460 ft from n and 380 ft from w line. Ellis & Davis, Brownwood, Hale 2, No. 607 C. Cummings sur, 150 ft from n and 1830 ft from e line.

BASTROP COUNTY—E. B. Germany, Dallas, Stork 1, H. Stewart sur, 150 ft from n and e lines. Texas Co., Houston, Yost 1, A. Garcia sur, 150 ft from nw and 450 ft from sw line.

BEXAR COUNTY—Amelia Balgart, San Antonio, Adams 1, No. 5 Gotari sur, nw cor.

CALLAHAN COUNTY—Humble O. & R. Co., Cisco, Seale 2, S 129 BBB&C sur, 275 ft s of No. 1. Texas Co., Wichita Falls, Hatchett 12, S 29, D&D Asy. sur, 300 ft s of No. 10. Moutray Oil Co., Abilene, Hickman 31, S 149, BBB&C sur, 300 ft nw of No. 29. F. A. Hueber, Cisco, Cathey 1A, S 9, Bayland Asy. sur, 75 ft s of No. 2. Reiter-Foster Oil Corp., Tulsa, Okla., Hatchett 9, S 24 D&D Asy. sur, 750 ft from e and 413 ft from s line; No. 15, 750 ft from w and 676 ft from s line. L. A. Warren et al, Cisco, Hearne 1, S 129 BBB&C sur, 150 ft from s and w lines. J. F. Mason, Fort Worth, Ogle 11M, 2974 TE&L sur, 300 ft w of No. 21.

CALDWELL COUNTY—Gulf Prod. Co., Houston, Smith 1, A. Floyd sur, 150 ft from s and e lines; No. 2, 300 ft n of No. 1; No. 3, 300 ft n of No. 2; No. 4, 300 ft n of No. 3;

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the *Spiral Stripe* protects you against mistakes and substitution
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IN this important oil pool, sulphide concentration is probably higher than in any other oil field area in the world. Here can be found cases where ordinary tubing has shown a life of but a few weeks, and failures within six months are most common. The loss of production incidental to shutting down a well for replacement of tubing, and the high cost of replacing at frequent intervals, makes it economical to use a better, though somewhat more expensive, material, such as Byers genuine wrought iron.

Due to the chemical purity of its base metal, and to its content of non-corroding siliceous slag, wrought iron shows an inherent resistance to corrosion which is of importance in fields having an adverse influence on tubing, casing, etc. The additional life given by Byers Galvanized Wrought Iron Tubing is often as much as 100% to 300% as compared with other makes of tubing.

A large number of pumping wells in this area have been using Byers Tubing and Casing for over three years without a corrosion failure.

* * *

The district superintendent of a prominent lease reports getting from wrought iron five times the life received from ordinary tubing.

* * *

One well showed ordinary 4" tubing completely eaten up within 31 days, compared with 2½" wrought iron in service 90 days and then used for line pipe. (Well making water and produced by air.)

* * *

A number of field superintendents have issued orders that if any of the wells are to be put on air, galvanized wrought iron tubing is to be used immediately.

* * *

One prominent producer, after making inquiry among the other companies in this field, decided to use galvanized wrought iron for all future requirements.

* * *

After trying cheaper tubing in nine wells of a certain lease, it was all replaced with Byers. Nine months later, when the last report was received, all of the wrought iron was still in very good condition.

* * *

When another make of tubing showed its first failure in a pumping well after 4 months' time it was replaced after 6 months with Byers. No trouble has been experienced to date, the wrought iron having been in the well approximately 11 months and being still in good condition.

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BYERS *Galvanized* TUBING

GENUINE WROUGHT IRON

Say you saw it in The OIL WEEKLY

No. 5, 300 ft n of No. 4; No. 6, 300 ft n of No. 5; No. 7, 300 ft n of No. 6. Tip De Arman, Luling, Carter 2, G. Hinds sur, Lu-Tex Oil Co., Inc., Luling, Davis 6, A. Floyd sur, 150 ft from s and w lines. Golden West Oil Co., San Antonio, Wilson 6, A. Floyd sur, 300 ft se of No. 4; No. 7, 300 ft se of No. 3. R. W. Malone 1, A. Floyd sur, 150 ft from n and W lines. Texas Co., Houston, Moses 1, G. Hinds sur, 150 ft e of center of w line. Branyon B 2, J. R. Miller sur, 1580 ft from w and 150 ft from s line. C. E. Lange, San Antonio, W. P. Walker 1, G. Hinds sur, 150 ft from n and w lines; No. 2, 150 ft from w and 214 ft from s lines. Humble O. & R. Co., Houston, Hickman 2, G. Hinds sur, 150 ft from n and 47 ft from w line; Smith 2, A. Floyd sur, 244 ft from s and 210 ft from e line; Tiller 1, G. Hinds sur, 150 ft from s and w lines. Lonnie Glasscock, Lytton Springs, Fee 1, G. Paige sur, center; Fee 2, P. Martinez sur, 139 ft from se and 130 ft from sw line. Pearson 1, Lytton Springs sur, center; Fee 1, Lytton springs sur, center.

COLEMAN COUNTY—Ross Drilling Co., Dallas, Hays 3, S 92, B & S sur, 150 ft from n and 750 ft from e line. S. J. Taylor, Fort Worth, Young 1, No. 192 B. F. Green sur, 150 ft from n and 225 ft from e line. Jamieson, Pollard & Brooks, Coleman, Thate 1, S 173, G. Eubanks sur, 450 ft from n and 200 ft from w line.

COOKE COUNTY—M. Staniforth, Wichita Falls, Ware 1, J. C. Dickson sur, 450 ft s of center of n line.

CULBERSON COUNTY — Grisham-Hunter Corp., Abilene, Seay 2, S 20, B 59, T&P sur, 200 ft from s and w lines.

CONCHO COUNTY — Jones & Leiner, Brownwood, Jones 1, J. G. Rich sur, 420 ft from n ond 150 ft from w line.

CHAMBERS COUNTY—Mills Bennett Prod. Co., Houston, Smith 2, H. Griffith sur, 50 ft from w and 360 ft from n line; Means 1, H. Griffith sur, 50 ft w of center of e line. Humphreys Corp., Houston, Kirby 6, H. Griffith sur, 215 ft se of No. 4; C. Barber 1, H. Griffith sur, 50 ft from s and e line.

CROCKETT COUNTY—Donnelley & Young, Fort Worth, Shannon 1, S 11, B 9, GC&SF sur, center.

DUVAL COUNTY—Sun Oil Co., Houston, Norton 2, S 250, GB&CNG sur, 150 ft from n and 450 ft from e line. S. & O. Oil Co., Houston, Hahl 1, S 250, B 23, sur, 220 ft from N and 377 ft from from w line. Onyx Oil Co., Houston, Krauter 2, S 250, B 20, 408 ft w of No. 1. O'Henry Oil Co., Laredo, Henry 1, B 1870, Snodgrass sur, 220 ft from ne and 450 ft from se lines.

ERATH COUNTY—H. J. Wickens et al, Strawn, Smith 1, T. Stubblefield sur, 430 ft from s and w lines. J. S. Stephenson, Strawn, Liberty School 1, J. M. Espinosa sur, 230 ft from n and 157 ft from e line. Hickory O. & G. Corp., Fort Worth, Emith B1, T. Stubblefield sur, 600 ft from s and w lines.

EASTLAND COUNTY—G. W. Price, 2102 North Delaware, Indianapolis, Ind., Holcomb 2, J. House sur, ne cor. Wiley Harbin, Eastland, McGee 1, S 29, B 2, H&TC sur, 500 ft from e and 150 ft from n line.

FORT BEND COUNTY—Navarro Oil Co., Houston, Robinson A 8, H. Shropshire sur, 92 ft w of No. A7.

FREESTONE COUNTY—J. W. Hooser, Dallas, McGeorge 1, S. A. Sweet, 650 ft from nw and 1700 ft from ne line.

GRAY COUNTY—Danciger O. & R. Co., Fort Worth, Williams 1, S 6, B 1, ACH&B sur, 330 ft from n and e lines. Paxton & Holt, Amarillo, Gething 1, S 14, B A9, H&GN sur, 330 ft from s and e lines. Indian Territory Illuminating Oil Co., Bartlesville, Okla., Champman 1, S 10, B 26, H&GN sur, 330 ft from s and e lines. Plains Drilling Co., Amarillo, Saunders 4, S 4, B 1, ACH&B sur, 990 ft from s and 330 ft from e line.

GOLIAD COUNTY—J. E. Alexander, Goliad, Bergman 1, B 30, Goliad sur, 250 ft from w and 950 ft from s line.

GONZALES COUNTY—Texas Co., Houston, Bateman 3, A. Zumwalt sur, 150 ft sw of No. 2.

GLASSCOCK COUNTY—World Oil Co., Fort Worth, McDowell 1C, S 21 B 34, T&P sur, 330 ft from n and w lines. White Eagle O. & R. Co., Abilene, Dunbar 1, S 46, B 34, T&P sur, 1320 ft from n and w lines.

HOWARD COUNTY—Sun Oil Co., Dallas, Settles 6, S 135, B 29, W&NW sur. Owen-Sloan Oil Co., Big Springs, Roberts 9, S 136, B 29, W&NW sur, 330 ft w of center of e line. Greene O. & R. Co., Fort Worth, Clay 5, S 127, B 29, W&NW sur, 785 ft from s and 230 ft from w line. F, H. E. Oil Co., et al, Sherman, Roberts E9, S 136, B 29, W&NW sur, 50 ft w of No. E8. American-Maracaibo Co., New York, N. Y., Settles 3C, S 6, B 32, T&P sur, 210 ft from w and 330 ft from n line. Hyer & Yates, Fort Worth, Clay 2, S 165, B 29, W&NW sur, 330 ft from n and e lines. Dunigan Bros. & Hyer, Fort Worth, Clay 4, S 126, B 29, W&NW sur, 250 ft from e and 785 ft from s line. Howard County Oil Corp., Big Springs, 40 1, S 5, B 32, TWP 2S sur, 50 ft from e and 330 ft from s line.

HENDERSON COUNTY—Henderson Pet. Co., Cade 1, L. B. Dorsey sur.

HUTCHINSON COUNTY — Phillips Pet. Corp., Bartlesville, Okla., Garland 3, S 77, B 46, H&TC sur, 330 ft from s and w lines; No. 4, 330 ft w of center of e line; Barnum 5, S 64, B 46, H&TC sur, 660 ft n of No. 4; No. 6, 330 ft from e and 1650 ft from s line. Whittenburg 15, S 63, B 46, H&TC sur, 2451 ft n of No. 12.

HARRIS COUNTY—Navarro Oil Co., Houston, Dooley 70, J. Hamilton sur, 490 ft from s and 335 ft from e line.

HARDIN COUNTY—Lake View Oil Co., Sour Lake, Harding County Oil Co., 58, S. Jackson sur, 250 ft from s and 50 from e line.

JIM HOGG COUNTY—Alworth, Stevens, Hild & Co., Laredo, Garza 14, B 8, No. 39 sur, 570 ft from ne and 204 ft from se line.

JACK COUNTY — Security Drilling Co., Wichita Falls, Jones 1, No. 413 M. Mabin sur.

JEFFERSON COUNTY—I. W. Farha, Beaumont, Rohwedder 1, I. Spear sur, 200 ft from n and 160 ft from e line.

LIBERTY COUNTY—Yount-Lee Oil Co., Beaumont, Mitchell 13, M. G. White sur, 800ft from s and 50 ft from w line; No. 14, 150 ft n of No. 13. Sun Oil Co., Beaumont, Mitchell 22, M. G. White sur, 100 ft e of No. 16; No. 23, 100 ft n of No. 18; No. 21, 125 ft n of No. 20. Empire G. & F. Co., Daisetta, O'Brien 1, M. G. White sur, 75 ft from s and w lines.

MONTAGUE COUNTY—Pure Oil Co., Fort Worth, Keck A 11, Wm. Donoho sur, 450 ft s of No. 10.

NAVARRO COUNTY—Wm. Clarkson Jr., Corsicana, Bradley 17, R.C.S.L. sur, 655 ft se of No. 15.

NUECES COUNTY — Saxet Co., Corpus Christi, Dunn 5, J. Dunn sur, 1500 ft w of No. 1.

PANOLA COUNTY—Texas Co., Wichita Falls, Adams A7, S. B. Lacey sur, east central. M. H. Smith, Shreveport, La., Agurs 1, L. Womack sur, 500 ft w of center of e line.

PECOS COUNTY—Phillips Pet. Corp., Bartlesville, Okla., Nutt 1, S 9, B 125, St. L. Ry. sur, 330 ft from s and e lines.

PALO PINTO COUNTY—Gholson & Conway Bros., Ranger, Hinkson 1, S 71 T&P Ry. sur, 300 ft from n and 330 ft from e line.

REFUGIO COUNTY—T. H. Horn et al, San Antonio, Howard 1, S 8, J. Miguel sur, 600 ft from n and 2640 ft from e line.

SHACKLEFORD COUNTY—T. R. Barton & Co., Fort Worth, Broyles 1, S 14, L. A. L. sur, 450 ft from e and 155 ft from s line. A. C. Wallace, Albany, Huskey 11, 529 TE&L sur, 300 ft e of No. 3; No. 12, 300 ft e of No. 1. Midwest Explo. Co., Amarillo, Dyer 3, S 85, B 12, T&P sur, 633 ft from n and 657 ft from e line. Roeser & Pendleton, Inc., Fort Worth, Cook A85, S 60 E. T. Ry. sur, 1542 ft from n and 454 ft from w line. Ohio Oil Co., Inc., Albany, Matthews 9, S 29, E.T.Ry. sur, east central. Simms Oil Co., Dallas, Lones 3, S 64, B11, T&P sur, 580 ft from n and 200 ft from w line. Wichita Prod. Co., Wichita Falls, Myers 6, S 1, GH&H sur, 300 ft w of No. 1B. Tannehill, Kiser & Fleming, Albany, Matthews 1, S 29, E.T.Ry. sur, 175 ft from s and w lines. Less Combest et al, Mineral Wells, Elliott 2, S 10, L.A.L. sur, 100 ft from w and 1100 ft from s line; Alexander 6, S 15, L.A.L. sur, 750 ft from w and 450 ft from s line; Broyles 17, S 14, L.A.L. sur, 150 ft from n and e lines. J. G. Terry et al, Moran, Flippen 1, S 35, B 11, T&P Ry. sur, 150 ft from n and w lines. Union Oil & Mining Co., Tulsa, Okla., Huskey 32, 548 TE&L sur, 300 ft w of No. 25. A. D. Robinson, Dallas, Blach 1, 374 TE&L sur, center. Loggie & Arendt Oil Co., Albany, Blach 2C, 389 TE&L sur, 450 ft from s and w lines. L. R. Barton & Co., Fort Worth, Broyles 1, S 17, L. A.L. sur, se corner. Texas Co., Wichita Falls, Waters 4, S 64, Univ. Lands sur, 160 ft from E and 282 ft from s line. Amerada Pet. Corp., Cisco, McCauley 2, B. B. Stansell sur, 2600 ft e of No. 1 Marland Prod. Co., Ponca City, Okla., Flippen 4, S 30, B 11, T&P sur, 330 ft from s and w lines. Roeser & Pendleton, Inc., Fort Worth, Cook A4, S 83, E. T. Ry. sur, 220 ft from e and 1246 ft from n line; No. A29, S 61, E. T. Ry. sur, South central part of SE¼; No. A30, 1525 ft from s and 978 ft from e line. Midwest Explo. Co., Amarillo, English 4, 542 TE&L sur, 450 ft from s and 824 ft from e line.

SHELBY COUNTY—Gulf Prod. Co., Shreveport, Caraway 1, A. Castelbury, north central.

STEPHENS COUNTY—Gulf Prod. Co., Fort Worth, Gholson 2, S 25, B 6, T&P sur, 330 ft from s and w lines.

SUTTON COUNTY — Dixie & Southern Crude Oil Purchasing Co., Wichita Falls, Allison 1, S 44, B K, GH&SA sur, 2310 ft from n and 330 ft from e line.

THROCKMORTON COUNTY—H. I. Stock, Cisco, Stacey 1, 1614 Premium sur, 1600 ft from n and 2100 ft from w line. Gulf Prod. Co., Fort Worth, Brown C 320 1, 1617 TE&L sur, 1866 ft from n and w lines.

WICHITA COUNTY—Ascot Co., Wichita Falls, Jackson 2, B 25, D.C.S.L. No. 4 sur, 300 ft from n and 150 ft from w line. Mogren & Anderson, Electra, Goetze 13, SA&MG sur, 250 ft s of No. 11. Holbrook & Woods, Wichita Falls, Kemp & Kempner B 82, W.V.F.L. sur, 50 ft sw of No. 24. Mrs. A. R. Young, Wichita Falls, McCarty 9, Fowler sur, 50 ft w of No. 5. D. F. Whatley, Wichita Falls, Electra Oil Co. 1, SA&MG sur, 50 ft from s and e lines. Staley, Wynne & Co., Wichita Falls, Kemp & Kempner 7, B 82, W.V.F.L. sur, 300 ft w of No. 6. Coppock & Coleman, Iowa Park, Kemp & Kempner 18, B 82, HT&B sur, 450 ft from N and 180 ft from w line. Bridwell Oil Co., Wichita Falls, Burnett 4, SC3, H&TB sur, 350 ft se of No. 1. Ryan Consolildated Pet. Corp., Bartlesville, Okla., Nance 104, S. O. Fowler sur, 300 ft s of No. 102; No. 103, 440 ft w of No. 100. F. B. Widmoyer, Iowa Park, Hooks 1, R. J. Scott sur, 150 ft from n and e lines. W. B. Omohundro, Wichita Falls, Pace 21, R. J. Scott sur, 450 ft from w and 1125 ft from s line. J. D. Thweatt, Wichita Falls, Roller 14, T. C. Ry. sur, 600 ft from n and e lines. J. E. Dunaway et al, Wichita Falls, Allingham 1, S 32, B 5, H&TC slur, 140 ft from w and 150 ft from n line. Mogren & Anderson, Electra, Seale 2, S 129, BBB&C sur, (Callahan County); Goetze 12, SA&MG sur, 500 ft n of center of s line. H. M. Ross, Wichita Falls, Stringer 1, S 4, B 23, H&GN sur, 150 ft from e and 600 ft from s line. Staley, Wynne & Co., Wichita Falls, Kemp & Kempner 8, B 82, W.V.F.L. sur, 75 ft w of No. 7. R. H. Cook, Electra, Throckmorton 5, Torry sur, 350 ft sw of No. 4. J. H. S. Bonner, Wichita Falls, Cole 23, J. McCool sur, 328 ft e of No. 8. Staley, Wynne & Co., Wichita Falls, Case 1, 831 TE&L sur, 600 ft from e and 900 ft from s line. United Prod. Co., Wichita Falls, Hodges 2B, H&TB sur, 150 ft from S and w lines. W. A. Patterson, Fort Worth, Douglas 6, S 2, B 2, SA&MG sur, 800 ft from w and 160 ft from s line. Madison O. & G. Co., Electra, Burnett 20, S 7, HT&B sur, 50 ft w of No. 2. Continental & O'Donohue, Wichita Falls, Love 2, W. S. Kennard, 50 ft w of No. 1, Eain-McGaha Oil Corp., Wichita Falls, Waggoner L 7, S 31, B 4, H&TC sur, 300 ft s of No. 6 (Wilbarger county). Douglas Bros. Oil Co., Electra, Douglas 5, No. 2 SA&MG sur, 880 ft from n and 1350 ft from w line. United Prod. Co., Wichita Falls, Hodges 5B, HT&B sur, 150 ft from n and 250 ft from w line.

WILBARGER COUNTY—Fain-McGaha Oil Corp., Wichita Falls, Waggoner & Cochran, Wichita Falls, Waggoner I 1, S 4, B 17, H&TC sur, 1470 ft e of center of w line. Barkley & Meadows, Wichita Falls, Waggoner C8, S 5, B 5, H&TC sur, 310 ft n of center of s line. R. R. Robertson, Wichita Falls, Waggoner 3A, S 40, T. D. Purnell sur, 300 ft n of No. 1. Fain-McGaha Oil Corp., Wichita Falls, Waggoner S 26, S 24, B 4, H&TC sur, 200 ft from n and w lines. J. B. Baker, Jr., Wichita Falls, Waggoner 10B, T. D. Purnell sur, 1950 ft from w and 1115 ft from n line. Cosden & Co., Inc., Fort Worth, Waggoner 36B, S 30, B 4, H&TC sur, 30 ft s of No. 31B. Simms Oil Co., Dallas,

THE red paint on the head of TRANSIT TONGS is a guarantee that they are genuine Klein Tongs, made as Mr. John S. Klein designed them, in our works, where he was Superintendent many years ago.

The tool steel lined hook, the rivet supported at each end, extra heavy hand forged construction and the painstaking location of the bit to get just the proper bite are all features of TRANSIT TONGS.

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Waggoner 9, S 5, B 5, H&TC sur, 300 ft w of No. 8.

WINKLER COUNTY—Southern Crude Oil Pur. Co., & Dixie Oil Co., Wichita Falls, I. Hendrick M31, S 33, B 26, sur, 1650 ft from e and 1980 ft from s line; I. Hendrick K5, S 41, B 26, 1320 ft from n and 990 ft from e line; I. Hendrick D5, S 4, B B12, 330 ft from e and 440 ft from s line; T. G. Hendrick J1, S 9, B B12, sur, 440 ft from n and 330 ft from e line.

WHEELER COUNTY—Wishkaemper Bros., Shamrock, Woodley 1, S 53, B 23, H&GN sur, 330 ft from s and e lines. Martin & Dubose, Shamrock, Close 1, S 82, B 23, H&GN sur, 300 ft from n and 660 ft from e line. Wishkaemper & Johnson, Shamrock, Fee 2, S 80, B 23, H&GN sur, 160 ft from s and w lines. Northern Texas Utilities Co., Wichita Falls, Fee 1, S 130, B 23, H&GN sur, center. Fain-McGaha Oil Corp., Wichita Falls, Perkins 1, S 54, B 24, H&GN sur, 330 ft from n and e lines.

WHARTON COUNTY—Gulf Prod. Co., Houston, McCarson 9, S. F. Austin sur, 200 ft ne of No. 6.

WEBB COUNTY—Sun Oil Co., Dallas, Yeager-Strchman 10A, No. 5 Las Animas sur, 300 ft s of No. 9A. Rycade Oil Corp., Houston, Yeager-Strohman R5, No. 5 Las Animas sur, 300 ft n of No. 6; No. R6, 1350 ft from n and 150 ft from e line; No. R7, 300 ft s of No. 6.

WASHINGTON COUNTY—Sun Oil Co., Beaumont, H. Witt 1, J. F. Perry sur, 150 ft from se and 202 ft from ne line.

YOUNG COUNTY—J. W. Bundy, Graham, Bryan 1, 1902 TE&L sur, 150 ft from n and w lines. Senior Oil Co. & Riggs & Oliphant, Graham, Sweet 8, 1488 TE&L sur, 150 ft from n and 2400 ft from e line. Barkley & Meadows, Wichita Falls, Stewart 19, D. Dawson sur, 300 ft s of No. 10. Senior Oil Co. & Riggs & Oliphant, Graham, Sweet 6, 1488 TE&L sur, 1800 ft from e and 150 ft from n line. Gulf Prod. Co., Fort Worth, Bullock 1, S 60, TE&L sur, 1500 ft from s and w lines. Petroleum Prod. Co., Wichita Falls, Parrish B, 2B, TE&L sur, 300 ft n of No. 1. R. R. Rhodes, Graham, Moreland 1, 1485 TE&L sur, 1170 ft from s and 450 ft from e line. Creath & Kell, Wichita Falls, Horton 1, 1906 TE&L sur, 150 ft from n and w lines. Stivers & Streeter Co., Fort Worth, Lobban 1, 1667 TE&L sur, 500 ft from s and e lines. C. A. Pennell et al, Loving, Jones 1, S. Sallie sur, 150 ft from s and w lines. E. P. Brown, Wichita Falls, McClatchey 1, B 171, TE&L sur, 450 ft e of center of w line. P. F. Gwynn, Wichita Falls, Kunkel C 2, BBB&C sur, 300 ft w of No. 1. C. W. Boller, Wichita Falls, Gregg 12, A. Rohus sur, 300 ft s of No. 10. Pacific Oil Co., Fort Worth, Morgan 1, 3413 TE&L sur, 1550 ft from n and w lines. Wichita Prod. Co., Wichita Falls, Farmer 1B, J. Anderson sur, 150 ft from e and 450 ft from s line. King-Royalty Co., Wichita Falls, Hawkins 13, 1914 TE&L sur, 300 ft s of No. 10. Continental & Underwood Drilling Co., Wichita Falls, Campbell B, B4, 1390 TE&L sur, 600 ft from n and w lines. Petroleum Prod. Co., Wichita Falls, Boley 1, 194 TE&L sur, 150 ft from n and w lines.

ZAPATA COUNTY—O. W. Killam, Laredo, Cuellar 8, J. M. Pereda sur, 150 ft from n and 795 ft from w line. R. V. Hill, San Antonio, Ramirez 4, No. 627 T. Bertrang sur, 450 ft from n and 710 ft from e line.

CALIFORNIA

BELRIDGE—The Ohio Oil Co. No. 22, 30-28-21. Berry Oil Co., No. 89, 30-28-21.

COALINGA—Cates Allen No. 1, Ne 1, 7-19-15.

KERN COUNTY—Lincoln Drilling Co., No. 1, 6-28-23. Standard Oil Co., Kern County Lease No. 5, 24-29-27.

KINGS COUNTY—Milham Explo. Co., Elliott 2, 2-22-17.

LONG BEACH—Shell Co., Cherry Hill Com. 8, 29-4-12; Nicholson 8, 29-4-12; Seeple 5, 24-4-13.

MIDWAY—North American Oil Cons., No. 47, 30-31-24.

ROSCRANS—Union Oil Co., Rosecrans 10, 19-3-13; Rosecrans 11, 18-3-13.

SANTA BARBARA COUNTY — Shell Co., Rutherford 1, 6-4-30.

SANTA FE SPRINGS—Union Oil Co., Alexander 17, 6-3-11; Bell 40, 6-3-11; Bell 41, 31-2-11; Bell 42, 6-3-11. Universal Consolidated Oil Co., O'Connell 4, 5-3-11; O'Connell 5, 5-3-11; Blanchard 10, 6-3-11; Blanchard 11, 6-3-11. California Well Drilling Co., Roberts 2, 5-3-11. George F. Getty, Inc., S. F. S. 26, 6-3-11.

VENTURA—Associated Oil Co., Lloyd 67, 27-3-23. Penn-Kan Oil Co., Francis 1, 28-3-23.

WHEELER RIDGE—Standard Oil Co., Kern Countp Lease No. 2, No. 36, 28-11-20.

Rincon

Ventura, Calif.—Richfield Oil Company has plugged back to 6515 feet in Hobson 1, in the Rincon field, in an effort to shut off the water which interfered with a recent production test at 6532 feet. The company recovered the bailer after two weeks of persistent fishing and will make another production test within a week. This well probably has encountered more hard luck than any deep test ever drilled in Ventura County. After overcoming all kinds of obstacles, it was tested two weeks ago and responded with a flow of water and only a small amount of oil. Cores taken from the bottom of the hole showed gray sand, the much feared formation in California, and the well will be plugged back in stages if necessary to locate the water. The gas pressure on the test was satisfactory, indicating that commercial production is possible if the water can be shut off.

Several wells are drilling near the edge of the structure and good oil showings have been found in at least three wells. The limited area along the ocean and the unsatisfactory developments in the proven acreage make edge wells attractive at this time. Both Elmer Oil Company and Petroleum Exploration Company have encountered thin layers of oil sand in outpost wells.

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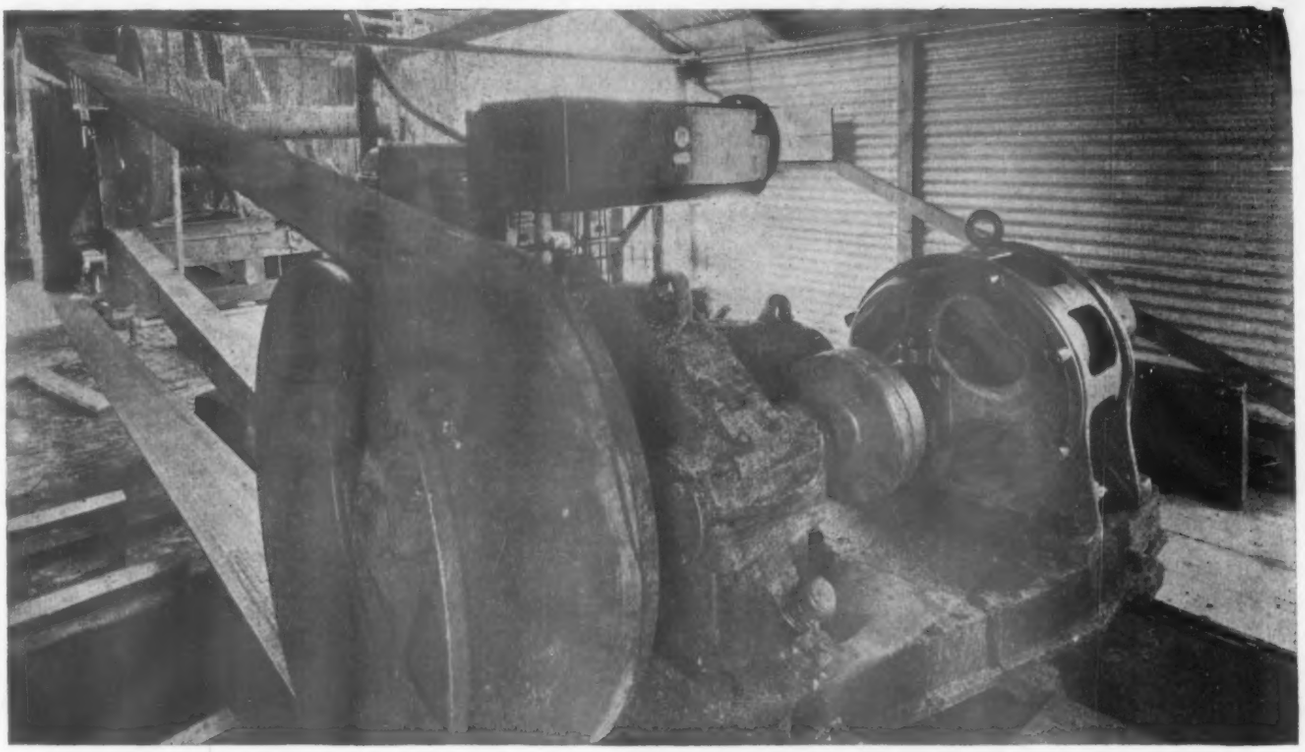

An installation of a Westinghouse-Nuttall Single Reduction Gear Unit in the Yates Field, Pecos County, Texas.

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WESTINGHOUSE-NUTTALL single-reduction oil well gear units are "skilled" for oil well jobs. Embodied in their design and construction is every detail which exhaustive study and practical field experience have demonstrated as essential for performing the most strenuous duties of oil well operation.

For rotary or cable tool drilling, for handling casing, tubing or rods, for swabbing or bailing, or for pumping, these sturdy units do the job with a surprising efficiency, reliability, and economy.

They are small, self-contained, light-weight units built by the R. D. Nuttall Company, Pittsburgh, Pa., in several sizes to accommodate motors of from 15 to 125 horsepower. The service requirements of each installation determine the proper sized unit to install to do the jobs "skillfully" as only Westinghouse-Nuttall units can do them.

Send for bulletins describing these units.

Address inquiries to any office or branch of the Oil Well Supply Company, or any sales office of the Westinghouse Electric & Manufacturing Co.

Westinghouse - Nuttall

T 30270

WILDCATS FROM ALL SECTIONS

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CONCHO COUNTY—		
K. Kimberlin et al, Maloy 1	*	2090
JONES COUNTY—		
Stough et al, Willis 1	*	1760
PECOS COUNTY—		
Rio Pecos Oil Co., Yates 1	*	1555

ANDREWS COUNTY—Deep Rock Oil Co.'s Hostetter 1, sd 1235 ft. Mid-Continent Pet. Corp.'s Fisher 1, lcn.

BORDEN COUNTY—Condor Pet. Co.'s Hall 1, elev 2601 ft, top salt 1235 ft, top lime 2969 ft, dr 3445 ft. E. L. Doheny et al's Koensman 1, elev 2427 ft, top salt 900 ft, top lime 2430 ft, sd 3791 ft. Greene O. & R. Co.'s Slaughter 1, dk.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Nevill 1, elev 3950 ft, dr 990 ft. Brewster Oil Co.'s Fee 1, machine. Cowden-Cole et al's Jackson 1-A, sd 2000 ft. Forest Oil Corp.'s Skinner 1, sd 1150 ft. Van McPhail et al's McIntyre 1, sd 1765 ft. C. Williams et al's Poncey 1, sd 500 ft.

COKE COUNTY — Cates & Dennis' J. R. Mims 1, sd 1465 ft. Lipan Oil Co.'s Rawlings 1, sd 2840 ft. Louisiana Oil Ref. Corp.'s Powers 1, elev 2040 ft, dr 3365 ft. Mid-Kansas O. &'G. Co.'s Lackey 1, dr 2640 ft.

CONCHO COUNTY — Lloyd Jones Motor Co.'s Jones 1, dr 230 ft.

CRANE COUNTY—C. C. Duffey et al's Cowden 4, dk. Gulf Prod. Co.'s Waddell 5, fsh tools, td 3483 ft; Waddell 6, rig.

CROCKETT COUNTY — Barbara Oil Co.'s Cox 1, elev 2051 ft, top lime 1082 ft, sd hfw 1072 ft. V. T. Bolin & Co.'s Coates 1, sd 2110 ft. W. W. Donnelly et al's Shannon 1, (Sec. 9) elev 2486 ft, sd 1719 ft. Donnelly-W. A. Moncrief & J. D. Young's Todd 1, (Sec. 35) spudded and sd. J. D. Wheeler et al's State fee 1, sd 285 ft. F. P. Zoch-W. A. Moncrief et al's Tippett 1, dr cavey hole 285 ft.

CULBERSON COUNTY — Deep Rock Oil Co. et al's Seay 2, dr 880 ft. J. H. Hickey et al's Finley 1, sd 1660 ft. Scott & Dittman's Miller 1, sd 1765 ft. West Texas Oil & Exploration Co.'s McGregor 1, sd 385 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, dr 3285 ft.

DAWSON COUNTY — Magnolia Pet. Co.'s Jeter 1, elev 2889 ft, top salt 1640 ft, dr 3505 ft.

EDWARDS COUNTY—Gale Oil Co.'s Jernigan 1, dr 3625 ft. McMan O. & G. Co.'s Schreiner 1, dr 3885 ft.

EL PASO COUNTY — C. E. Sillix et al's Malone 1, sd 1010 ft.

FISHER COUNTY—Bickerstaff-Simmons et al's McWhirter 1, sd 1875 ft. Cranfill-Reynolds & Sun Oil Co.'s M. M. Brown 1, rig; Sharp 1, set cas 3010 ft. J. B. Dunigan et al's Henry 1, sd 1200 ft. Hucony Gas Co.'s Marberry 1, elev 1876 ft, sd 2840 ft. R. W. Rainey et al's Marberry 1, elev 1929 ft, top lime 2995 ft, sd 3507 ft. Thompson et al's Newman 1, dr 815 ft.

GAINES COUNTY—Pure Oil Co.'s Williamson 1, dr 1300 ft.

GARZA COUNTY—Emerald Oil Co.'s Boren 3, testing shallow pay, td 4801 ft.

GLASSCOCK COUNTY—Gibson-Johnson et al's B. C. Mann 1, rig. Meriwether Oil Co.'s McDowell 2, dr 765 ft. White Eagle O. & R. Co.'s Dunbar 1, lcn. World Oil Co.'s McDowell 1-C, elev 2530 ft, rig.

HOWARD COUNTY—Andrews et al's Neal 1, elev 2731 ft, top salt 2015 ft, top lime 3150 ft, sd 3278 ft. Greene O. & R. Co.'s Furrh 1, elev 2277 ft, top salt 1255 ft, top lime 2097 ft, dr 2865 ft. Group One (Texon) Oil Corp.'s Quinn 1, elev 2499 ft, top salt 1070 ft, top lime 3103 ft, sulphur water 3250 ft, dr 3400 ft. Group One & Marland's Eason 1, dr 2090 ft; Settles 4, cem cas td 2133 ft; Settles 6-A, set cas 2125 ft. Harrison et al's Dodge 1, elev 2321 ft, top lime 1830 ft, sd 3257 ft. Henshaw (now American-Maracaibo Co.'s) Settles 2-A, dr 2031 ft; Settles 1-C, elev 2715 ft, p 680 bbls 19 hrs., oil pay 2208-48 ft; Settles 2-C, dr dr 2425 ft; Settles 3-C, dr 1750 ft. Howard County Oil Corp.'s Kloh 1, spudded and sd. Louisiana Oil Ref. Corp.'s Settles 2, dr 1935 ft. Phillips Pet. Co.'s Thomas 1, elev 2591 ft, top salt 1170 ft, fsh 2745 ft. Plymouth Oil Co.'s Kloh 1, dr 250 ft. Taylor-Link Oil Co.'s Kloh 2, dr 370 ft. Witherspoon Oil Co.'s Kloh 1, spudded and sd.

HUDSPETH COUNTY — The California Co.'s University 1, bad hole 237 ft. Western States Oil Co.'s Gardner-Mosely 1, sd 3125 ft; S. W. Moore 1, fsh 2750 ft.

ABREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

Attorney Buys Wyoming Royalty Oil

Casper, Wyo.—W. L. Walls, formerly attorney general of Wyoming and now legal representative for the Continental Oil Company and other Mountain States operators, has been announced as highest bidder for the government's royalty oil in the Salt Creek field. Mr. Walls bid 42 cents above the posted field price, and it is therefore supposed that the contract will be awarded to him, provided that he will post a $250,000 contract bond. Mr. Walls has made but brief statements to newspaper men, explaining that he represented only himself and his associates in the transaction, and that he specifically did not represent any major oil company or operator. He says that he will have a statement to make after the government has notified him, but not before. Mr. Walls further announced that if he is awarded the contract the gathering systems in the field, as well as the Sinclair pipe line to Kansas City, will be available for his use. Those companies owning the gathering lines seem to know nothing of any plan whereby use of their lines would be allowed Mr. Walls; the Sinclair line, however, is a common carrier. The gathering lines are controlled by the Midwest Refining Company for the most part.

Frannie, Wyo.—Midwest Refining Company announced last week that it would drill the well on Frannie dome sponsored by the original promoters of the structure, Julius Peters and V. M. Kirk. Location has been spotted on SE Section 23-58-98. Midwest Refining Company will drill a well on its own account on its own acreage on Section 25-58-98. Equipment is being moved in and the wells will be drilled immediately.

IRION COUNTY — Fuhrman Pet. Corp.'s Sugg 1, 2 and 3, lcns. Kimbrough et al's Nutt 1, sd 1400 ft. Kimbrough & Flinchbaugh's Tankersley 1, spudding. Kingwood Oil Co.'s J. D. Sugg 1, elev 2334 ft, cased off oil pay, dr 3685 ft. Mertzon Oil Co.'s Roach 1, sd 2202 ft. Signal Oil Co.'s Sugg 1, elev 2415 ft, top salt 705 ft, dr 2830 ft. Webb et al's Nutt 1, sd 2505 ft.

JONES COUNTY—Annabelle Oil Co.'s Bickley 1, rig. Atkinson & Sandefer's Hudspeth 1, top lime 2565 ft, testing 1000 ft, oil 2574-76 ft. E. P. Campbell et al's Herndon 2, lcn. W. G. Clark et al's Thomas 1, fsh 2350 ft. Cosden & Herbert Oil Co.'s Bickley 6, dr 1510 ft; Bickley 7, lcn. Cranfill-Reynolds-Dilworth's Bickley 1, top lime 2444 ft, co and swab oil pay 2465-67 ft, td 2496 ft. Hucony Gas Co.'s Thomas 1, lcn. Independent O. & G. Co.'s Smith 2, dr 825 ft; Smith 3, dr 540 ft. Marland Prod. Co.'s Mason 5, dr 610 ft; Mason 6, dr 720 ft. McNeeley et al's Bland 1, spudded and sd. Mid-Sun Oil Corp.'s Hoehn 1, dr 1110 ft. Phillips Pet. Co.'s Campbell 1, rig; Mason 5, dr 1180 ft; Pomroy 2, dr 995 ft; Winters 1-W, dr 865 ft. Milt Richardson et al's Martin 1, sd 900 ft. Robert Oil Corp. et al's Grayson 6, dr 2265 ft; Grayson 7, dr 560 ft. Roeser-Pendleton-Landreth's Castle 1, dk; Grayson 3, dr 2370 ft. Sedwick O. & G. Co.'s Routh 1, dk. Sinclair O. & G. Co.'s Smith 2, dr 2660 ft. Snowden & McSweeney's Bickley 4, dr 1315 ft; Bickley 5, spudding. Texas Co. & Cosden's L. Carter 3, dr 2190 ft; Carter 4, dr 1565 ft; Carter 5, dr 195 ft. Tomberlin et al's Horn 1, lcn. Woods & Williams' Parr 1, sd 2100 ft.

LOVING COUNTY—Lockhart & Co.'s R. L. Allen 2, top salt 722 ft, dr 4060 ft; H. L. Lepp 1, lcn.

LYNN COUNTY—Geo. B. McCamey et al's C. O. Edwards 1, rig.

MIDLAND COUNTY—O. H. Shoup et al's Parks 1, elev 2871 ft, top salt 1740 ft, dr 4705 ft.

MITCHELL COUNTY—E. P. Campbell et al's Pond 1, dr 1150 ft. Hucony Gas Co.'s Weichsel 1, elev 2139 ft, top salt 550 ft, top lime 1342 ft, dr 3510 ft. Simms Oil Co.'s Ellwood 1, lcn. Teas & Wheeler's Radford 1, elev 2223 ft, top lime 1365 ft, dr 2655 ft.

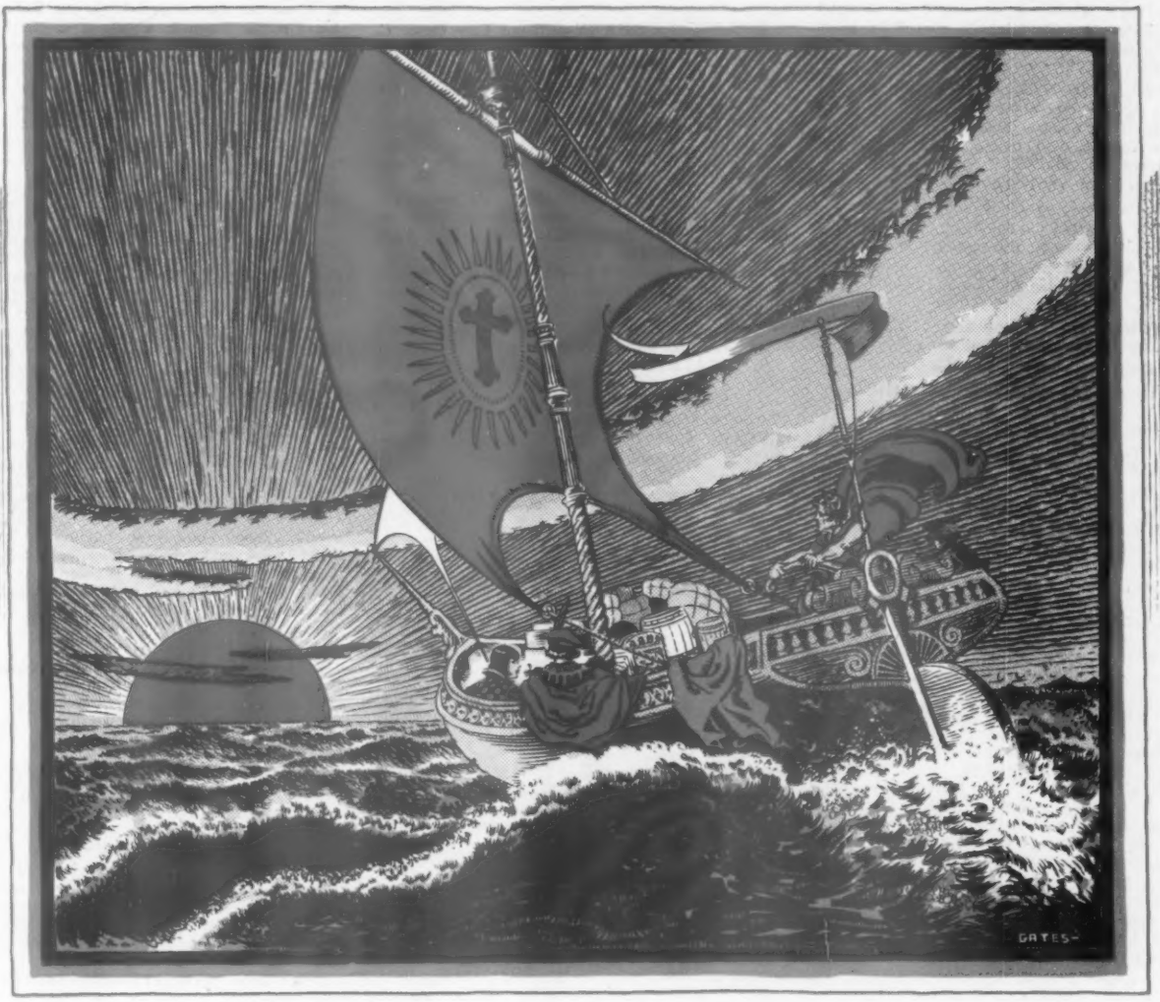
NOLAN COUNTY—T. G. Bradstreet et al's Kuteman 1, rig. Oil Co.'s Pepper 1, elev 2242 ft, dr 3525 ft. C. M. Root Drilling Co.'s Simpson 1, dr 530 ft. White Eagle O. & R. Co.'s Allyn 1, dr 1230 ft.

PECOS COUNTY—Alexander-Lyles et al's Sellman 1, elev 2672 ft, top salt 814 ft, top lime 1602 ft, sd hfw show gas and oil, td 1655 ft. Geo. H. Anderson et al's University 1, Sec. 11, Blk 17, elev 2801 ft, top salt 1030 ft, top lime 1715 or 1760 ft, running 5-inch casing to test three million ft gas with spray oil and water 1932-38 ft, td 1961 ft. Atlantic Oil Prod. Co.'s Sellman 1, sr 800 ft. Benedum-Trees et al's Corder 1-A, top salt 1840 ft, dr 2520 ft. M. Z. Dibble et al's Bonebrake 1, elev 2555 ft, top salt 1874 ft, sd 2004 ft. Ditto Oil Interests' Montgomery 1, sd 660 ft. McCarty Oil Co.'s Bennett 1, trace gas 1190 ft and 1215 ft, trace oil 1228-40 ft, dr 1275 ft. Mauch & Krogen's Holmes 1, elev 2352 ft, top salt 535 ft, sd 1010 ft. Phillips Pet. Co.'s J. L. Nutt 1, rig. Schumaker et al's Williams 1, dr 315 ft. Southern Crude Oil Pur. Co.'s Scarbauer 1, elev 2680 ft, fsh 3380 ft. Talbot & Dittman's Unsicker 1, fsh 212 ft. Transcontinental's University 1, elev 2552 ft, top lime 1035 ft, fsh 4128 ft. World Oil Co.'s Kloh 1, elev 2810 ft, sd 3105 ft. Yates Ranch Oil Co.'s Yates 1, dr 375 ft.

PRESIDIO COUNTY — L. C. Brite Prod. Co.'s Brite 1, set cas and sd 4152 ft. Eastland Oil Co. et al's Tootle 1, spudded and sd. Delmar-Empire-Phillips Pet. Co.'s Tootle 1, ur 950 ft.

REAGAN COUNTY — The California Co.'s University 5, dk. Big Lake Oil Co.'s University 151 (deep test), fsh 2605 ft. Texon O. and L. Co.'s University 1-B, Group One, flowed 952 bbls 53 deg. oil and 11,900,000 ft gas 8500- 23 ft.

REEVES COUNTY—E. W. Brooks-Thompson et al's Eddins 1, elev 2719 ft, top salt 1622 ft, top gray lime 3216 ft, sd 5658 ft. D. P.



MAY your Christmas bring more pleasure than you ever could express and your joys be in such measure as you never could *compress*; and in every New Year hour toward which you steer your bark, may you have abundant *power* . . . . . That's the hearty wish of CLARK.

Clark Bro. Co. OLEAN, N.Y. Compressors and Gas Engines

Davis et al's Kinney 1, spudded and sd. Exploration Co.'s Kinney 1, elev 2847 ft, sd 2900 ft. Dr. Kitsos et al's Kloh 1, elev 2786 (corrected) ft, sd 840 ft. Bob Penn et al's Bowles 1, rig. Lee O. White et al's Kloh 1, lcn.

RUNNELS COUNTY—G. W. Boyce et al's Lange 1, rig. Foster et al's Currie 1, lcn. Ira Nourse & Tilton's Cramer 1, dr 1455 ft. Union Oil Co.'s Allen 1, dr 1510 ft. Vacuum Oil Co. et al's Brevard 1, sd 1320 ft.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, sd 260 ft.

SCURRY COUNTY—Landreth Prod. Corp.'s Hillmer 1, elev 2314 ft, top salt 870 ft, dr 4300 ft. J. B. Mims et al's Koonsman 1, spudded and sd. R. B. Pender Oil Co.'s Davis 1, elev 2208 ft, top salt 445 ft, sd 910 ft.

STERLING COUNTY—Foster & Gracey Oil Co.'s Foster 1, elev 2260 ft, sd 1630 ft.

STONEWALL COUNTY—Sun Oil Co. et al's Rayner 1, elev 1818 ft, top lime 1500 ft, dr 3400 ft.

SUTTON COUNTY — Phillips Pet. Co.'s Cawthorn 1, lcn; Holman 1, fsh 5775 ft. Sou. Crude Oil Pur. Co.'s Allison 1, dk.

TAYLOR COUNTY—Burnham et al's Amyx 1, sd 1640 ft. Grisham-Hunter Corp.'s H. E. Campbell 1, dk. Hurley Oil Co.'s Payne 1, top lime 2473 ft, sd 2615 ft. Mid-Kansas O. & G. Co.'s Parramore 1, dr 1885 ft. Mid-Continent Pet. Corp.'s J. H. Taylor 1, dr 400 ft.

TERRELL COUNTY—Big Bend Oil Co.'s Bassett 1, elev 2270 ft, sd 4385 ft. Keck-Pecos Oil Trust's Hamilton 1, sd 1749 ft.

TERRY COUNTY—Superior Oil Producing Co.'s Brownfield 1, elev 3205 ft, top lime 4565 ft, sd 4640 ft.

VAL VERDE COUNTY—Dyer Bros. et al's W. E. Wilson 1, sd 1380 ft. Producers Oil Co. et al's Everett 1, sd 1405 ft. Val Vert Oil Corp.'s Bassett 1-A, sd 1250 ft.

WARD COUNTY—E. B. Lovelace et al's Redman 1, spudded and sd. Prairie O. & G. Co.'s Sealy 1, elev 2666 ft, top salt 1073 ft, top lime 3110 ft, dr 3285 ft. Rector Oil Co.'s Johnson 1, elev 2438 ft, top salt 745 ft, top lime 2010 ft, co 2500 ft. J. F. Shipley et al's Hayzlett 1, elev 2503 ft, top salt 727 ft, flow 125 bbls oil 2480-81 ft. Talbott-Dittman et al's C. C. Dorr 1, top salt 745 ft, dr 1080 ft.

WINKLER COUNTY—Amerada Pet. Corp.'s Daugherty 2, elev 2891 ft, top lime 2654 ft, show gas, dr 2835 ft; Daugherty 3, dr 1500 ft. Atlantic-Kessler-Logan's Daugherty 2, elev, 2894 ft, top lime 2622 ft, sd tested 600 bbls daily 10 per cent water at 3143-62 ft. Barnsdall Oil Co.'s Morton 1, elev 2730 ft, top lime 2870 ft, dr 2960 ft; Morton 2, sd 1095 ft; Morton 3, rig. Empire G. & F. Co.'s Daugherty 2, elev 2889 ft, top lime 2690 ft, dr 2700 ft; Daugherty 3, cem cas 2781 ft; Daugherty 1-B, top lime 2821 ft, cem cas 2830 ft. Gulf Prod. Co.'s O'Brien 2, top salt 2077 ft, dr 2117 ft; O'Brien 3, dr anhydrite 2235 ft. Magnolia Pet. Co.'s Scarborough 1, elev 2953 ft, top salt 1122 ft, top lime 2700 ft, set 8-inch cas 2962 ft. Marland Prod. Co.'s Morton 1, set cas 2657 ft; Morton 2, dk. Prairie O. & G. Co.'s Daugherty 1, dr 2365 ft; Daugherty 2, sd 435 ft; Morton 1, top salt 1540 ft, dr 1600 ft. Shell Pet. Corp. & Danciger O. & R. Co.'s Daugherty 1, dr 1955 ft; Daugherty 2, dr 2599 ft. Simms Oil Co. & Southwest Oil Prod. Co.'s Sealy 1, dr 1400 ft. Texas-Canadian Oil Co.'s Kloh 1, lcn. Warner-Quinlan Co.'s Daugherty 1, dr 405 ft. Wentz Oil Corp.'s Morton 1, top salt 1706 ft, top lime 2672 ft, show oil cem cas 2699 ft.

SOUTHWEST TEXAS

Completions

WEBB COUNTY—		
O. W. Killam, Bruni 29, blk. 57	*	2415
Killam 1, Schott pool, sur 457 ...	*	2165
GONZALES COUNTY—		
Empire Gas & Fuel Co., Norton 1, 1 mi n Ottine	350	3790

BASTROP COUNTY—Cranfill & Reynolds' Yost 3, Cedar Creek, top Serpentine 1394 ft, set casing to test. Amerada Pet. Corp.'s Yost 1, Cedar Creek, plugged back to 1700 ft. The Texas Co.'s Yost 1, Cedar Creek, dk. Atlantic Oil Producing Co.'s Yost 1, Cedar Creek, top Serpentine 1341 ft. Sun Oil Co.'s A. Yost 1, Cedar Creek, dk.

DUVAL COUNTY—Sun Oil Co.'s Norton 1, swab 60 bbls, cleaning out to drill deeper; Norton 2, ru; Davis 1, lcn. R. Driscoll's Fee 13, dr 1250 ft shale. O. Henry Oil Co.'s Henry 1, ru.

HIDALGO COUNTY—Queen City O. & G. Co.'s American Land & Irrigation Co. 2, 3 mi n Mercedes, sd 700 ft.

JIM HOGG COUNTY—T. J. Conway's Palacios 1, r 2010 ft.

JIM WELLS COUNTY—Cushing Oil Co.'s Perez 2, 3 mi n Alice, sd 2700 ft.

KINNEY COUNTY—Stephens et al's Clamp 1, sd 1800 ft.

MAVERICK COUNTY—Rycade's Sullivan 3, dr 4695 ft; Chittam 2, cleaning out, 7635 ft; Chittam 3, ru. Ryan Consolidated Pet. Co.'s Indio Co. 2, td 1175 ft.

NUECES COUNTY—Alexander & Smith's Elleff 1, Aqua Dulce. Maddox-Horn-Davis' Ragland 1, Aqua Dulce, sd 400 ft. Sigmond et al's Allan 1, dr 2900 ft; Rosenblum & Grimm's Alban 1, Aqua Dulce, sd 2830 ft.

SAN PATRICIO COUNTY—LaPrelle et al's White Point 1, td 3130 ft. Pickett et al's Whitworth 1, White Point, sd 3250 ft. Leach et al's Collins 1, Mathis, dr 2450 ft.

STARR COUNTY—The Texas Co.'s Resendez 1, dr 2835 ft, brown shale.

TEXAS GULF COAST

Completions

FORT BEND COUNTY—		
Gulf, L. Wolf 13, Long Point	50	600
VICTORIA COUNTY—		
Houston Oil Co., McFaddin 2, 11 mi ne Victoria	*	860

AUSTIN COUNTY—Humble's Hardy 1, Raccoon Bend, waiting on cement to set at 1224 ft; Hardy 2, Raccon Bend, ru; A. Grawunder C-1, Raccoon Bend, waiting for cement to set, 1336 ft; Beal 1, Raccoon Bend, dr 3274 ft in sand and shale; Bracey B-1, Raccoon Bend, waiting for cement to set at 3273 ft; Walton 2, Raccoon Bend, drilling plug at 1172 ft; Grawunder B-1, Raccoon Bend, completed for 800 bbls on ½-inch choke at 3262 ft; Urban 2, Raccoon Bend, pumping mud in casing; Urban 3, Raccoon Bend, sd 198 ft.

BRAZORIA COUNTY—Shell Pet. Corp.'s Allen 5, Allen dome, fsh at 2230 ft, td 4037 ft; Reese 3, Allen Dome, sdtrk at 2040 ft. Myers et al's Davidson 1, Clemens Dome, dr 966 ft lime. F. A. Bartlett's Dannenbaum 8, Stratton Ridge, sd 3145 ft.

CALHOUN COUNTY—Baker & Thompson's Thomas 1, 9 mi w Pt. Lavaca, dr 2240 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Lost River 2, Lost Lake, td 3623 ft; Lost Lake 2, dr 1078 ft sand and lime. Gulf's Wilborn 1, Hankamer, dr 500 ft. Mills Bennett's Kirby 2, Barbers Hill, dr 4195 ft rock; Smith 2, Barbers Hill, drk.

COLORADO COUNTY—Rich Oil Corp.'s Brun 1, 3 mi ne Columbus, sd 1215 ft.

FAYETTE COUNTY—Phalen et al's Cervanca 1, 6 mi s La Grange, dr 2700 ft shale. Moore et al's Kerr 1, Muldoon, sd 2078 ft.

FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 4, Boling, dr 1735 ft gbo; Kasparek 4, Boling, dr 3425 ft gbo. Gulf's Wolf 13, Long Point, completed at 600 ft for 100 bbls, 50 per cent b.s. and water, pumping. E. C. Farmer 2, Boling, set 6⅝-inch at 3725 ft. Fort Bend Oil Co.'s Moore 1, Orchard, dr 3457 ft shale. Scott & Peak's Armstrong 1, Boling, sd 2235 ft. Humble's Dew 1, Sugarland, waiting on cement to set at 3397 ft; Sugarland Industries 4, Sugarland, dr 3285 ft, sandy shale; Deathridge 1, Sugarland, stdg; Deathridge 2, Sugarland, ru; Nelson 1, Sugarland, fsh 2990 ft; Camp 2, Sugarland, lcn. J. H. Diehl's Armstrong 1, 2 mi e Boling, sd 500 ft. South Texas Exploration Co.'s Hartsfield 1, Needville, dr 4040 ft shale.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, td 4160 ft. Republic Prod. Co.'s Lobit 1, 1 mi nw Dickinson, dr 3200 ft.

GOLIAD COUNTY—J. E. Alexander's Campbell 1, 1 mi n Goliad, sd 825 ft. McCarson et al's Broyles 1, Goliad Townsite, prep to abn at 1000 ft. Southern Crude's Patterson 1, 10 mi nw Goliad, dr 2150 ft shale.

HARDIN COUNTY—Chappel Hill Oil Co.'s Hale 1, 5 mi nw Sour Lake, sd 1810 ft. Guedry Drlg. Co.'s Guedry 1, 3 mi s Batson, drk.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, sd 691 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, sd 2145 ft. Humble's Warren 5, Hockley, ru; Minnetex 1, Mykawa, r at 4976 ft; Simms-Smith 74, Goose Creek, dr 5734 ft sandy shale. Paxton et al's Brubacker 1, 1 mi ne Clodine, drk. J. A. Shine et al's Kitzman 1, 2 mi n Cypress, dr 2910 ft gbo. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft.

JASPER COUNTY—Great Lakes Oil Co.'s Boykin 3, 3 mi ne Rockland, drk. Tar Well Oil Co.'s Mills 1, 3 mi ne Rockland, td 1763 ft. L. A. Painter's Boykin 1, 3 mi ne Rockland, td 1000 ft.

JACKSON COUNTY—The Texas Co.'s Moore 1, Edna, dr 2820 ft shale. Wright Bros.' Classen 2, Edna, sttrk at 3170 ft. Douglas & Lawrence's Lawrence 1, Edna, sd 3020 ft.

JEFFERSON COUNTY—Deep Test Oil Corp's McFaddin 1, 1 mi e Spindle Top, sd 2825 ft. Southern Spindle Top O. & Dev. Co.'s Young 1, 1 mi w Nederland, sd 3425 ft. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk. Westbury Synd's West 1, 1 mi ne Westbury, td 2035 ft. Gulf's Burrell et al 2, Fannette, dr 4900 ft. River Oil Co.'s Ship Channel Land Co. 1, 2 mi se Beaumont, td 632 ft. The Texas Co.'s Pipkin & Davis 1, Big Hill, dr 1725 ft.

LIBERTY COUNTY—Barlow et al's Hinchcliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kouri et al's Campbell 1, 6 mi s Cleveland, sd 2000 ft. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk; Finley 1, 3 mi nw Hardin, sd 4335 ft. The Texas Co.'s Davis 1, Davis Hill, dr 4530 ft in sand and shale. Humble's Sterling 3, Moss Bluff, td 2818 ft; Welder 9, S. Dayton, set screen, prep to bail at 3628 ft. Sun Oil Co.'s Koveleika 1, N. Dayton, td 2300 ft. Union Explo. Co.'s Esperson 1, 5 mi s. Dayton, td 2820 ft.

MATAGORDA COUNTY—Rycade Oil Corp. Hudson-Humble 4, Markham, ru. Crossland et al's Murphy 1, Shepherds Mott, dr 1550 ft lime and gbo. Dr. F. S. Griffith's Culver 1, e Citrus Grove, sd 3215 ft; Baer 1, 1½ mi n Gulf Hill, sd 1900 ft.

ORANGE COUNTY—Veteran Oil Co.'s Reed Reed 11, 2 mi se Orange fld, td 2072 ft.

VICTORIA COUNTY—Houston Oil Co.'s McFaddin 2, 11 mi ne Victoria, abn at 860 ft.

WASHINGTON COUNTY—Sun Oil Co.'s Marcus 1, Clay Creek dome, dr 2513 ft. F. Grote 1, plugging back to 1400, got water at 1470 ft. Einman 1, Clay Creek dome, td 2598 ft. Mrs. J. Grote 1, Clay Creek, drk. Schirmer 2, Clay Creek dome, lcn. H. Witt 1, Clay Creek, drk.

REFUGIO COUNTY—Benedum-Trees Oil Co.'s Heard 2, completed for 400 bbls, 80 per cent oil at 3680 ft.

SOUTH LOUISIANA

Completions

CALCASIEU PARISH—		
Lehay et al, Jones 2	*	2300
IBERIA PARISH—		
Gulf, State Z-7, Loreauville	*	1110
La. Land & Explo. Co., Aevry Island 2	*	5875
TANGIPAHOA PARISH—		
Kentwood Pet. Co., Kent Realty Co. 1	*	1572

ACADIA PARISH—E. F. Simms' Clement 1, Jennings, sd for orders at 3872 ft; Clement 2, Jennings, standing at 3840 ft. Grace von Schueler 1, Jennings, tested at 3880 ft; Jennings Oil Co. 1, Jennings, sd 3545 ft; Cockrell 1, Jennings, sd 4330 ft.

ASCENSION PARISH—Gulf's United Lands Co. 11, Sorrento, lcn; United Lands Co. 13, Sorrento, ru. Triumph Oil Corp.'s Lacey et al 2, 1½ mi se Sorrento, sd 1100 ft. Burnside Oil Co.'s Roberts 1, td 785 ft. Big Dome Drlg & Dev. Co.'s and J. S. Kimbrough Rearwood 1, spudded. Baton Rouge Pet Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 729, Sulphur dome, drk; Fee 731, Sulphur, sd 4840 ft; Fee 733, Sulphur, r 4840 ft; Fee 735, Sulphur, preparing to deepen from 4275 ft; Fee 736, Sulphur, drk; Fee 737, Sulphur, r 4845 ft; Fee 738, dr 1945 ft rock; Fee 739, ru; Fee 740 ru. Lahay et al's Jones 2, abn at 2300 ft. J. W. Watson et al's Land Co. 1, Sulphur, sd 4510 ft.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 7, Sweet Lake, dr 2367 ft; Yount-Lee 8, Sweet Lake, ru. Calcasieu Oil Co.'s Breaux 1, Kelso Bayou, dr 3802 ft gbo; Valery 5, Kelso Bayou, dr 2300 ft shale and bldrs; Watkins 12, Kelso Bayou, td 3960 ft. Rycade Oil Corp.'s Yount-Lee Oil Co. 1, Hackberry, dr 3252 ft rock. Cameron Oil Co.'s Vincent 1, Hackberry, lcn. Yount-Lee Oil Co.'s School Land 8, Hack-

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berry, fsh 3790 ft after drilling into cavity. Shell Pet. Corp.'s Watkins 5, Black Bayou dome, preparing to drill plug at 1235 ft; Watkins 6, Black Bayou dome, dr 550 ft gbo.

IBERIA PARISH—La. Land & Exploration Co.'s Avery Island 2, abn at 5875 ft; Vermilion Bay A-3, Cypremont Point, dr 2750 ft gbo; Bernard 1, New Iberia dome, sd 2590 ft. Gulf's State Z-7, Loreauville, abn at 1110 ft; State Z-8, Loreauville, lcn; Kling 3, Loreauville, dr 50 ft.

IBERVILLE PARISH—Shell Pet. Corp.'s Wilbert 3, White Castle, ru. Standard of La.'s Wilbert 2, Bayou Blue dome, lcn; Schwing 1, Bayou Blue dome, ru. Union Sulphur Co.'s Schwing 3, Bayou des Glaise, dr 2750 ft lime.

LA FOURCHE PARISH—Gulf's Stark et al 8, Thibodaux, ru.

ST. LANDRY PARISH—The Texas Co.'s Botany Bay Fee 1, lcn.

ST. MARTIN PARISH—Rycade Oil Corp.'s State 3, Bayou Bouillon, lcn; Bayou Bouillon 5, hauling and mixing mud, td 3635 ft; Bayou Bouillon 6, drk; Atchafalaya Fee 3, Bayou Bouillon, preparting to core at 4065 ft; Atchafalaya Fee 4, Bayou Bouillon, dr 3960 ft sandy shale; Atchafalaya Fee 5, Bayou Bouillon, lcn. Ohio Oil Co.'s Martin et al 3, Hager dome, td 3925 ft. Yount-Lee Oil Co.'s La. Pet. Co. 3, Anse la Butte, coring sand and shale at 3500 ft.

ST. MARY PARISH—J. Dannenbaum's Le Blue 1, Charenton, dr 3015 ft shale.

ST. TAMMANY PARISH—Pearl Oil Corp.'s Fritsche 1, Slidell, prep to set 6-inch casing at 2020 ft.

TANGIPAHOA PARISH—Kentwood Pet. Co.'s Kent Realty Co. 1, abn at 1572 ft in water sand. Tanli Oil Co.'s Weinberger 2, dr 3760 ft sand.

TERREBONNE PARISH—Southern Gas Co.'s Peoples Sugar C. 1, Houma, dr 2287 ft rock.

WEST FELICIANA PARISH—Robinson & Long's Raccourci 1, dr 1650 ft gbo.

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Completions

ASHLEY COUNTY—		
Atlantic O. P. Co., Moffatt 1, 28-16-8	*	3951
CHICOT COUNTY—		
S. D. Hunter, Sawyer 1, 19-18-2	*	3321
OUACHITA COUNTY—		
Little Fay Oil Co., H. Primm 2, 23-15-16	30	2050

ASHLEY COUNTY—Texas Co.'s Keefer 1, 11-18-4, dk. Atlantic O. P. Co.'s Moffatt 1, 28-16-8, junked abn 3951 ft. C. E. Harris et al's Holmes 1, 9-16-7, sd 151 ft.

BRADLEY COUNTY—Ohio Oil Co.'s Sou. Lbr. Co. 2, 19-16-9, dr 300 ft.

CALHOUN COUNTY—Joe Hurley's Ark. Land & Timber 1, 29-16-12, dr 1325 ft.

CLARKE COUNTY — Wm. Henry, Tr.'s Clark 1, 34-9-21, sd 1385 ft.

CHICOT COUNTY—S. D. Hunter's Sawyer 1, 19-18-2, junked aban 3321 ft. W. S. Smith's Meyer 1, 14-19-2, sd 850 ft. Joe Crawford's Cashion 1, 14-18-2, ds stuck, td 2330 ft.

COLUMBIA COUNTY — G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd wo 2847 ft.

DALLAS COUNTY — Robt. H. Dedman's Hillman 1, 20-10-13, temp abn 1145 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Steamer 1, 17-4-13, sd 3462 ft.

FRANKLIN COUNTY — Ozark Nat. Gas Co.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, fsh junk with cable tools 2800 ft.

LOGAN COUNTY—Ark. Nat. Gas Corp.'s W. H. Parks 1, 26-8-24, trying to get by 8-inch csg 2361 ft, td 3208 ft.

MILLER COUNTY — E. A. Martin, Tr.'s, Dale 4, 23-15-26, dr 1590 ft.

OUACHITA COUNTY — McDonald Bros.' Wilson 1, 25-15-18, junked hole at 2821 ft while trying to set 6⅝-inch csg at 2805 ft, skidding dk north for new hole. Little Fay Oil Co.'s H. Primm 2, 23-15-16, pumping 30 bbls 2050 ft; H. Primm 3, 24-15-16, cem 6⅝-inch csg, td 2048 ft.

UNION COUNTY—J. P. Hawkins et al's Goodwin 1, 6-17-15, sd 1000 ft. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, tested sw through dr 3072-86 ft, dr 3090 ft. Tharpe Drilling Co.'s List 1, 25-17-15, sd 3050 ft. Foster et al's Murphy Land Co. 1, 22-17-17, ru wo. Calgo Oil Co.'s Primm 1, 9-18-17, sd wo, 3600 ft. McDonald Bros.' Mayfield 1, 29-19-15, sd 1990 ft. Sam Sklar, Tr.'s, Fitzgerald 10, 8-18-15, dr 1375 ft. Stark et al's Powell 1, 35-18-15, tested seven fourbles sw thru d. s. 2957-68 ft, coring 3108 ft. Grimes Bros.' Hill 2, 7-18-14, ru wo. Tate & Morefield's W. W. Smith 1, 6-18-13, coring 3180 ft. J. C. Marcum's DeYambert 1, 5-19-4, dr 2510 ft.

SOUTHERN CALIFORNIA

FULLERTON—Bastanchury Ranch Co.'s No. 1, new rig.

GARDEN GROVE—The Texas Co.'s Crawford 1, 35-4-10, dr hard sand 2315 ft.

HUNTINGTON-NEWPORT—Western Drilling and Producing Co.'s P. R. 1, 18-6-10, dr shale 3475 ft.

INGLEWOOD—Ring Pet. Corp.'s Simons 1, sd 4350 ft.

MAYWOOD — Richfield's Maywood Community 1, bldg rig.

MONTEREY PARK—Monterey Park Pet. Pet. Co.'s Jepson 1, fsh and co, td 3940 ft.

NEWHALL—California Eastern Oil Co.'s Hasley 1, 5-4-17, dr sandy shale 2520 ft.

POMONA—Pomona Oil Assn.'s Community 1, dr sand 930 ft.

PUENTE—Anchor Pet. Co.'s Hudson 1, plugged to 3700 ft, sd. B. and B. Oil Co.'s Amar 1, testing above plug at 2600 ft, td 4380 ft. Richfield's Didier 1, tar sand and shale 2740 ft.

RIVERA—Empire Drilling Co.'s Purman (Julian) 1, 14-2-12, dr gray sand 4660 ft.

SAN JUAN CAPISTRANO—O. K. Carr's Foster 2, testing wso 4185 ft.

SAN FERNANDO—Shell's Mission 2, dr sandy shale 5700 ft.

MISCELLANEOUS

RIVERSIDE COUNTY—Hall Pet. Co.'s Watt 1, 23-7-3, dr 933 ft. Spindletop Oil Syn.'s Salton 1, 25-7-10, sr 3270 ft, td 3460 ft.

SAN BERNARDINO COUNTY—Hesperia

When it comes to writing a fancy Xmas Greeting we wouldn't win many prizes---but if the Sincerity of our wish will help put it over, then you boys out in the fields who overcome hardships and obstacles with perseverence and "grit" and you Oil Industry officials whose vision and ideals continually "carry forward," are surely going to have a real old-fashioned Xmas holiday of good cheer and true friendships---and a New Year in which your ambitions are to be realized---this wish is our means of "broadcasting" appreciation to the many friends of "Layne" Screens and Packers throughout the industry.

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Oil and Gas Co.'s 1A, will deepen from 3310 ft. Western Pacific Oil Co.'s 3, sd 3220 ft.

SAN DIEGO COUNTY—Davenport Oil and Gas Co.'s San Marcos 1, dr shale and sand 860 ft.

NORTHERN CALIFORNIA

KERN COUNTY

BUTTONWILLOW—Milham Explo. Co.'s Wisnom 1, 16-28-23, sd 4500 ft. Doheny-Stone Drilling Corp.'s Salisbury 1, 7-29-24, dr shale 4435 ft. Southern California Drilling Co.'s 1, 4-28-23, sd 4270 ft; 1, 10-28-23, lcn; No. 1, 27-28-23, lcn.

COMANCHE POINT—W. W. Stabler's Tejon 1, 23-32-29, re-dr 2636 ft.

DELANO—S. H. Delzel's Vedder 1, 4-26-27, will deepen from 3115 ft.

GOULD HILLS—Bomke and Ball's Larson 1, 19-29-20, sd 2100 ft. Elmer Oil Co.'s 1, 2-29-20, dr shale 700 ft. Exeter Oil Co.'s Pray 2, 1-29-20, dr sand and shale 900 ft. Ozena Oil Co.'s 1, 27-29-21, bailing and co 2930 ft.

EDISON—General Pet. Corp.'s Seale 10, 5-30-29, dr sand 3019 ft. C. Wicker's 1, 24-29-29, new lcn.

McKITTRICK—Abbott Pet. Co.'s 1, 2-30-21, sd 1940 ft.

RIO BRAVO—Elmer Oil Co.'s 1, 8-28-25, dr shale 4580 ft.

SAN EMIDIO—Standard's 1, 35-11-22, dr sandy shale 3500 ft. Union's KCL-1, 5-10-21, rigging rotary.

SEMITROPIC—Richfield's Kerwin 1, 21-26-22, dr streaks oil sand 4675 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Continental's Franklin 1, dr brown shale 2435 ft.

REFUGIO—Shell's Rutherford 1, rigging up.

SUMMERLAND — Summerland Oil Co.'s Becker 1, 22-4-26, dr 3100 ft.

POINT ARQUELLO—Standard's Sudden 1, rig.

TORTUGA—Standard's Schyvers 1, rig.

VENTURA COUNTY

BARSDALE—Triple A Investment Co.'s Elkins 1, 28-4-19, plugged to 2850 ft, pumping 60 bbls oil 125 bbls water.

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr basalt 600 ft.

OJAI—Continental's Fox 1-M, 21-4-22, dr shale 2965 ft; Thompson 1, 22-4-22, installing rotary, td 2810 ft. E. J. Miley's Casitas 2A, co 775 ft. Rancho Rive Oil Co.'s 8, 28-4-23, fsh 265 ft.

PIRU—Bolsa Chica Oil Corp.'s Hidden 1, 5-4-18, bldg rig. Petroleum Securities Co.'s Diablo 1, 26-5-10, dr gray sand 6500 ft. Rio Grande Oil Co.'s B. B. N. 1, 13-4-19, co 2150 ft. Wasibi Oil Co.'s Bishop 2, 34-3-19, dr shale 2800 ft.

SANTA PAULA—W. W. Bryant's Anlauf 1, 21-4-21, dr brown shale 600 ft. San Pedro-Pt. Fermin Syn.'s Kellerman 1, 13-4-21, sr 625 ft, td 680 ft.

SATICOY—Standard's Citrus 5, dr gray sand 3800 ft. Ohio Oil Co.'s Alexander 1, dr sand 3875 ft.

SIMI—Emma F. Exline's Seaton 1, 32-5-21, fsh for dr pipe 2400 ft. Shell's Marr 1, 31-3-17, rigging up.

SOUTH MOUNTAIN—Ring Pet. Co.'s Converse 1, 3-3-21, dr oil sand and shale 4850 ft.

MISCELLANEOUS

FRESNO COUNTY—Fresno-Madera Syn.'s 1, 18-12-21, dr gray sand 4166 ft. Currency Pet. Co.'s 1, 28-21-14, dr shale 618 ft.

MADERA COUNTY—Los Angeles-Madera Syn.'s 1, 21-10-17, sd 2800 ft.

MENDOCINO COUNTY—Fred Whited's 2, 29-19-13, dr 525 ft, gas showings.

SAN LUIS OBISPO COUNTY—Holland and Kennebrew's Vishnu 1, 22-32-22, re-dr 1700 ft. North State Oil Co.'s 1, 11-22-28, dr brown shale 1500 ft. Panorama Oil Co.'s 1, 7-31-21, dr shale 3195 ft. Paso-Robles Oil Co.'s 1, 34-27-13, co 1830 ft. Union's Russ 1, 34-32-15, 10-in cas cmt 2210 ft, td 3180 ft; Chandler 1, 12-32-15, dr hard brown shale 2600 ft, gas showings.

OKLAHOMA

WOODS COUNTY—T 28n, R 18w, Sec. 11, George Vincent et al's Freedom 1, c sw, ponds.

GRANT COUNTY—T 28n, R 3w, Sec. 24, Lario O. & G. Co. et al's Connell 1, nwc, r.u.s.t.

HARPER COUNTY—T 27n, R 21w, Sec. 24, A. F. Kopisch Oil Co.'s Selman 1, nec sw, spudded and sd.

WOODS COUNTY—T 27n, R 15w, Sec. 20, Sooner State Oil Co. & E. R. Black's Marcum 1, c sw spudded and sd.

GRANT COUNTY—T 26n, R 4w, Sec. 34,

Sooner State Oil Co.'s Royce 1, swc nw, sd 550 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & Nat'l Union's McNeal 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft, litigation.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al's 1, sec sw, combination rig.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollner 1, nec se ne sw, lost tools 5640 ft, sd.

TEXAS COUNTY—T 1n, R 18 E.C.M., Sec. 11, Three Way Oil Co.'s Price 1, sec nw, hfw 3490 ft.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhaver 1, nwc, spudded and sd.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, sd 4755 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se, dr 550 ft. T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, sd 3025 ft, rig blown down.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al's Horton 1, c ne ne, spudded and sd.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland Oil Co.'s Looman 1, nec se, sd 5735 ft, casing parted. Sec. 12, Marland Oil Co.'s Miller 1, swc, hfw 4586 ft, sd.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckelby & McCoy's Perfect 1, nec, fsh 4395 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, sec sw, fsh tools 3970 ft. T 18n, R 2w, Sec. 21, Tibbets & Bend, Donahue 1, swc nw se, show of oil at 5395-5405 ft, dr 5782 ft.

KINGFISHER COUNTY—T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, dr 4846 ft.

BLAINE COUNTY—T 15n, R 12w, Sec. 26, W. J. Donley's Dickens 1, sec ne, dr 4390 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc ne, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick & Bailey's Lufkin 1, c ne se, dr 4536 ft. T 12n, R 3w, Sec. 15, Cromwell et al's Thompson 1, swc ne ne, dr 7016 ft. T 11n, R 3w, Sec. 24, I. T. I. O. Co.'s Parks 1, c se se, est. 40 mil ft gas 4793-4816 ft, td 6402 ft, drilled plugs started off 6000 bbls per day 40 grav.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, spudded and sd.

OSAGE COUNTY—T 26n, R 6e, Sec. 25, White Eagle O. & R. Co.,'s 1, swc ne, dr 1940 ft. T 22n, R 8e, Sec. 8, Harry McGill's 1, swc se, ur 10-inch 1210 ft.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma O. & G. Co.'s Buffalo 1, sec nw, dr 3433 ft.

LINCOLN COUNTY—T 16n, R 4e, Sec. 15, J. V. Bailey et al's House 1, c ne se, cemt 8-inch 3384 ft. T 16n, R 6e, Sec. 19, Morgan & Flynn's Finley 1, swc, lcn. T 15n, R 6e, Sec. 23, Shaffer O. & R. Co. et al's Pinkston 1, nec sw, dr 2876 ft. T 12n, R 3e, Sec. 29, Phillips Pet. Co.'s Roberson 1, sec nw, rig. T 12n, R 6e, Sec. 10, Kingwood Oil Co.'s Jennings 1, swc, sand 4620-27 ft hfw.

CREEK COUNTY—T 14n, R 9e, Sec. 1, Shaffer O. & R. Co.'s Polk 1, nwc ne se, Wilcox 3479-89 ft, hfw sd. Sec. 10, Transcontinental Oil Co.'s Taylor 1, nwc sw se, dr 2525 ft. Sec. 26, T. Kelley et al's Anderson 1, swc se, spudding.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 30, Tidal Oil Co. et al's Barnett 1, sec ne ne, dr 950 ft.

MUSKOGEE COUNTY—T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, c se, show gas 2200-49 ft, sd 2290 ft.

McINTOSH COUNTY—T 12n, R 18e, Sec. 15, A. B. Wolfe et al's Beck 1, nwc se, spudded and sd.

PITTSBURGH COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se, 3M gas 4613-35 ft, Wilcox 5443-65 ft dr.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, nwc ne sw, rebuilt rig 1800 ft sd.

PITTSBURGH COUNTY—T 6n, R 14e, Sec. 7, McAylor et al's Reed 1, nwc sw nw, sd 1103 ft, 1½M gas 788-95 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15,

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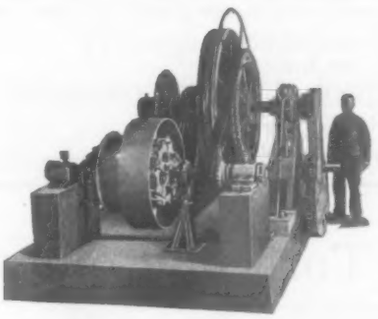

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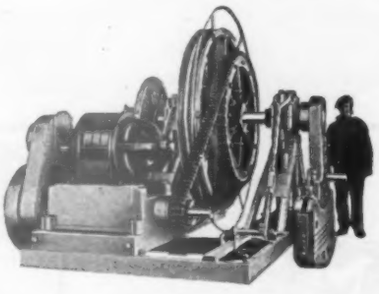

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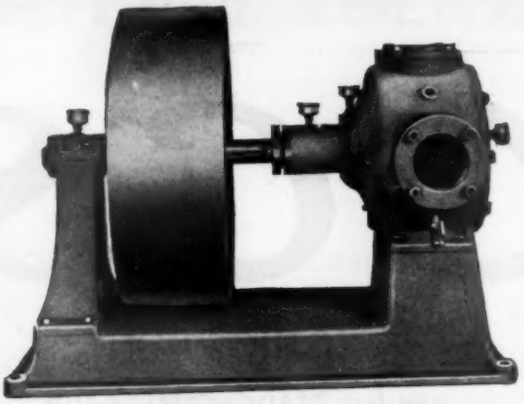

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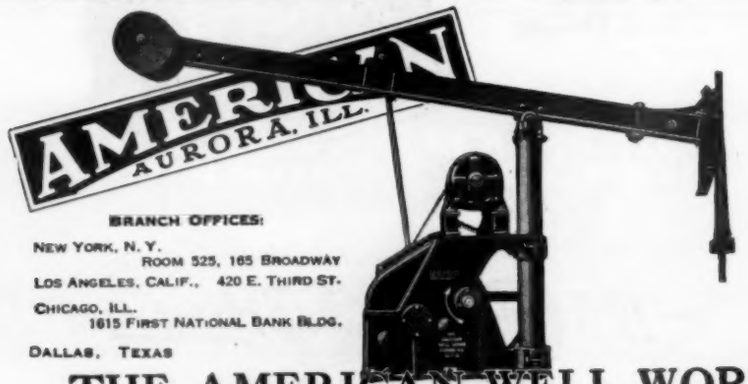

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SEMINOLE COUNTY—T 11n, R 6e, Sec. 27, Fuhrman Pet. Co.'s Fay 1, sec nw sw, dr 4644 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 21, T. B. Slick's Wolfe 1, sec ne se, dr 2290 ft.

SEMINOLE COUNTY—T 11n, R 7e, Sec. 34, Phillips Pet. Co.'s Mill 1, nwc sw, 2765 ft, td lost hole, skidding. T 10n, R 7e, Sec. 5, Marland Oil Co.'s Strothers 1, nwc se ne, dr 3110 ft. Sec. 18, Shaffer O. & R. Co. et al's Jones 1, swc ne, ts 4705-10 ft, hfw, pb 3715 ft, sd.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 11, Atlantic & Phillips' Bank 1, swc ne ne, cemt 8-inch 4250 ft. T 9n, R 5e, Sec. 30, Magnolia Pet. Co.'s Germany 1, sec nw, top Hunton 4159 ft, fluid in hole, co 4323 ft. T 8n R 2e, Sec. 24, Superior Oil Corp., Jones 1, swc nw ne, T. Hunton lime 4918 ft, td 4932 ft, show oil, fsh 5-inch csg. T 8n, R 3e, Sec. 12, T. B. Slick's Nix 1, sec nw nw, dr 2160 ft. T 8n, R 4e, Sec. 15, Phillips Pet. Co.'s Sparkman 1, sec sw dr 4620 ft.

SEMINOLE COUNTY—T 8n, R 8e, Sec. 4, McCullough's McGilbray 1, swc ne, ur 12-inch 1360 ft.

HUGHES COUNTY—T 8n, R 9e, Sec. 18, Pure Oil Co.'s Fixico 1, nec sw, top Wilcox 4426 ft, td 4500 ft, 900 ft water, sd. T 8n, R 10e, Sec. 1, Bauer et al's Penn 1, nwc sw ne, dr 4225 ft, 250 ft water.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner Oil Co.'s Vandeveer 1, nec nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 2e, Sec. 17, T. B. Slick's Spangler 1, nwc se nw nw, dr 5715 ft. T 7n, R 5e, Sec. 14, Champlin Ref. Co.'s Harber 1, swc ne sw, td 4324 ft, hfw sd. T 6n, R 5e, Sec. 17, Roxana Pet. Corp. et al's Lowe 1, swc nw ne, set 6-inch 4098 ft.

McCLAIN COUNTY—T 5n, R 3e, Sec. 29, Empire's Bonner 1, se nw nw, dr 3800 ft.

SEMINOLE COUNTY—T 5n, R 6e, Sec. 11, T. B. Slick's Harjo 1, nwc ne, dr 3845 ft, 500 ft sulphur water.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, show oil 2745-55 ft, sd 3000 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, Garland Oil Co.'s Strickland 1, sw nw sw, hfw Wilcox 3488-3493 ft, D&A.

PONTOTOC COUNTY—T 4n, R 4e, Sec. 20, Roxana Pet. Corp.'s Smith 1, nwc sw, fsh 2460 ft. T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec se, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, dr 1650 ft.

COAL COUNTY—T 1n, R 9e, Sec. 24, Galbreath et al's Jones 1, swc se, sd 2505 ft.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, sd 100 ft.

CADDO COUNTY—T 12n, R 11w, Sec. 15, Abernathy & Ashton's 1, c nw, dr 4573 ft.

ROGER MILLS COUNTY—T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, sd 700 ft.

BECKHAM COUNTY—T 8n, R 25w, Sec. 1, E. L. Martin's Daly 1, c nw se, dr 2195 ft. T 8n, R 21w, Sec. 33, Day Oil Co.'s Ault 1, c nw nw, dr 765 ft.

KIOWA COUNTY—T 7n, R 16w, Sec. 26, Connor & Son, Geis 1, sec nw ne, sd 1712 ft to stand. T 7n, R 15w, Sec. 35, Davis Malernee's Van Kirklan 1, nwc, sd 858 ft. T 6n, R 16w, Sec. 18, Alexander et al's Fuqua 1, swc ne, owdd, sand 428-440 ft, pumped 225 bbls in 31 hours, sd for storage. T 6n, R 15w, Sec. 6, Johnson McDowell's 1, c sw ne, sd 2160 ft. T 6n, R 14w, Sec. 31, Sloan et al's Sloan 1, ne cor, lcn.

CADDO COUNTY—T 6n, R 12w, Sec. 29, W. J. Hartley's Gilbreath 1 ,se cor nw se, owdd, sd 3394 ft.

KIOWA COUNTY—T 5n, R 14w, Sec. 6, Russell & Sloan's Rushton 1, ne cor sw se, sd 1075 ft for 6-inch csg.

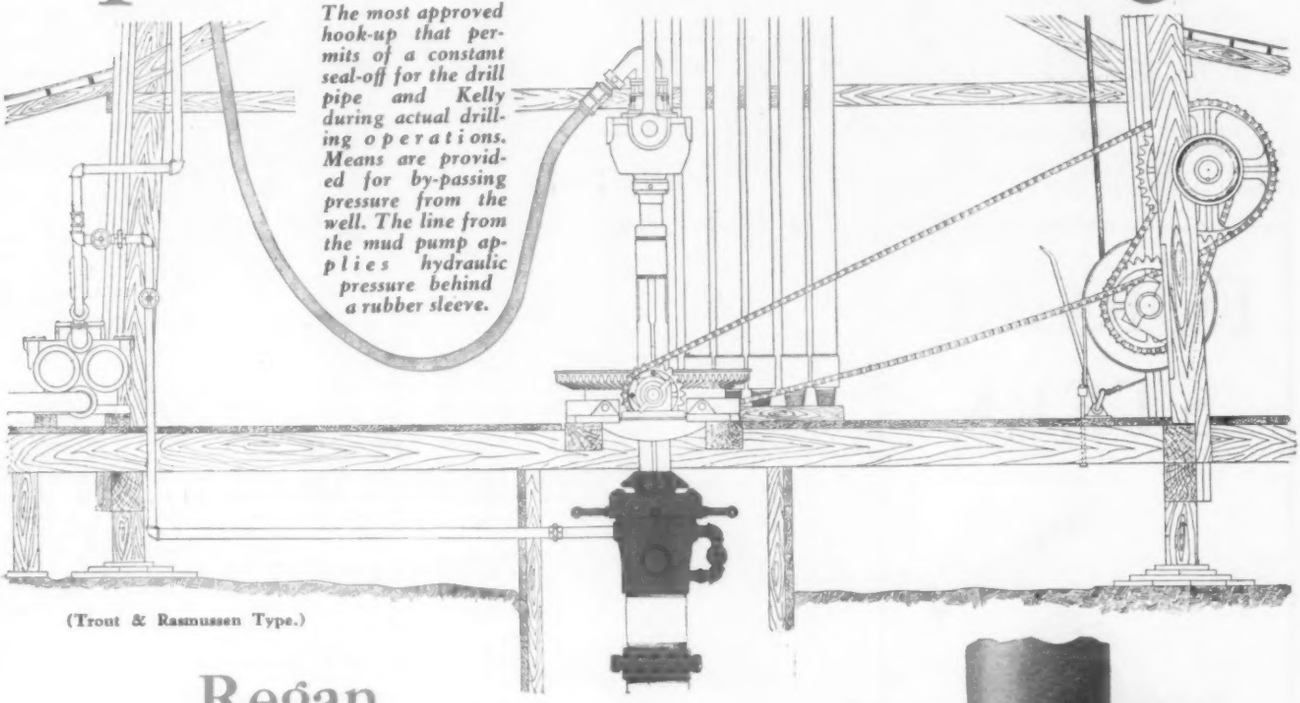
COMANCHE COUNTY—T 4n, R 11w, Sec. 2, Wirt Franklin's Hollow 1, nw cor, sd 1472 ft, show gas 1446-63 ft.

JACKSON COUNTY—T 1n, R 20w, Sec. 4, Houseman et al's Northington 1, ne cor, sd 2020 ft.

KIOWA COUNTY—T 1n, R 17w, Sec. 13, Allen Bros. Howell 1, nw cor, se, dr 250 ft.

STEPHENS COUNTY—T 1n, R 7w, Sec. 2, Stahl & Burris' Jefferson 1, se cor ne nw, fsh 2466 ft.

Automatic control of pressure *while drilling*

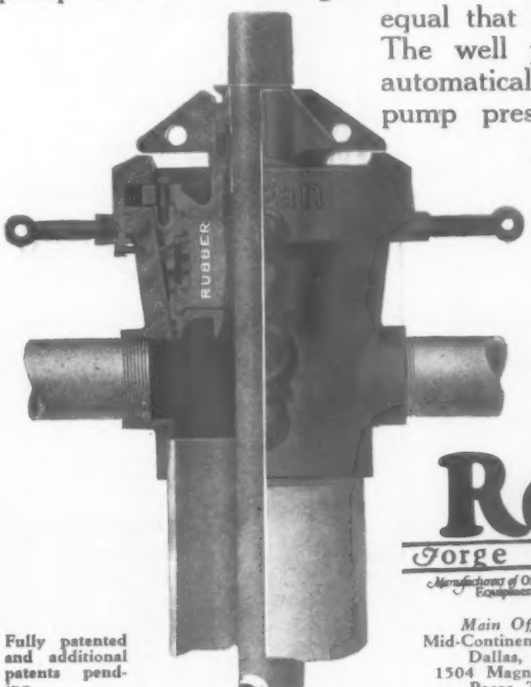


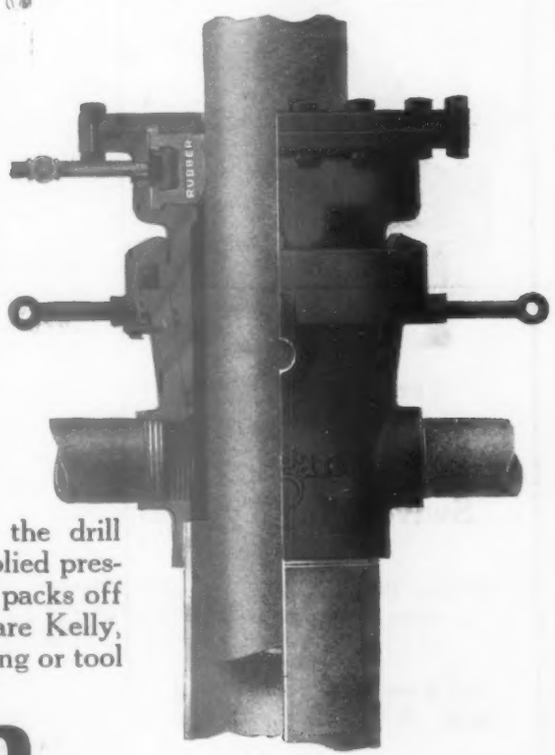
The most approved hook-up that permits of a constant seal-off for the drill pipe and Kelly during actual drilling operations. Means are provided for by-passing pressure from the well. The line from the mud pump applies hydraulic pressure behind a rubber sleeve.

(Trout & Rasmussen Type.)

Regan Rotary Blowout Preventer

In actual operation the pressure is supplied by the pump until the head of gas in the well has built up to equal that of the pump. The well pressure then automatically replaces the pump pressure, making operation automatic. The rubber sleeve, when not in use, is free of the drill stand. The applied pressure completely packs off around the square Kelly, drill pipe, coupling or tool joint.





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The above illustration shows cutaway view of the Regan Rotary Blowout Preventer used for packing off casing when running in. View to the left illustrates the device as used for controlling pressure around the drill pipe or Kelly. Tested to withstand a pressure of 2,000 pounds.

Say you saw it in The OIL WEEKLY

JACKSON COUNTY—T 1s, R 20w, Sec. 33, Stanley McGregor's 1, sw cor nw sw, sd 2425 ft.

STEPHENS COUNTY—T 1s, R 7w, Sec. 12, Ilsing, Russell & Nance's Houston 1, ne cor sw sw, sand 1722-26 ft testing.

KIOWA COUNTY—T 2n, R 16w, Sec. 6, Landfair 1, se cor sw se, dr 2535 ft.

TILLMAN COUNTY—T 3s, R 18w, Sec. 29, Dixie Oil Co.'s Harrison 1, ne cor nw, dr 390 ft.

COTTON COUNTY—T 3s, R 10w, Sec. 11, E. J. Stumpf, Jones 1, nw cor ne, lcn.

STEPHENS COUNTY—T 3s, R 8w, Sec. 26, E. J. Stumpf, Simon 1, sw cor, rig.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Pyson's Thomas 1, se cor sw, show oil and gas 1252-54 ft sd 2127 ft.

TILLMAN COUNTY—T 5s, R 15w, Sec. 3, A. M. Pearson's Indian 2, sw cor, (twin No. 1), dr 3420 ft.

JOHNSTON COUNTY—T 1s, R 7e, Smithy & Kinsley's Lane 1, se cor nw, sd 1306 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Texokla Drlg. Co.'s Anderson 1, se ne se, rur.

FORGED STEEL

Edward Globe Valve
Figure 688
For Service Up to
500 Lbs. W.S.P.

Swivel Plug Type

EValloy (Stainless Steel) Trimmings. Full pipe area.

This is one of the many Edward types. A complete stock always on hand.

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HOUSTON, TEXAS

T 5s, R 3w, Sec. 19, Devonian Oil Co.'s Miyer 1, nw cor se, bldg rig.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. G. Endicott's Craig 1, c nw ne, dr 620 ft.

NORTH LOUISIANA

Completions

EAST CARROLL PARISH—
Palmer Corp.'s Carrell Land Co. 1, 21-19-11e . . . . . * 3141

SABINE PARISH—
Doern et al, Pickering Lbr. Co. 1, 17-4-11 . . . . . * 4330

UNION PARISH—
Carter & Wingfield, Security Trust 3, 23-23-1w . . . . . * 3502

BIENVILLE PARISH—W. G. Gray, Tr.'s, Johnson 1, 21-18-6, sd wo 2338 ft. W. P. Wallace's Ashley 1, 15-16-10, dr 1400 ft.

BOSSIER PARISH — Big Ben Oil Co.'s Stewart 2, 15-18-12, rig up wo. Doern et al's Bolinger 1, 9-22-11, sd wo 4317 ft. Nell & Lanier's Biedenharn 1, 23-21-14, lcn. Triangle Drilling Co.'s Bulkley 1, 9-20-13, dr 4445 ft. Walker et al's Antrim 1, 28-22-13, sd wo 2985 ft.

CADDO PARISH—Tidal Oil Co.'s McGrary 1, 23-19-16, dr 2106 ft.

CATAHOULA PARISH — Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft.

CLAIBORNE PARISH—Dixie Oil Co.'s Gilbert 1, 27-21-5w, sd wo 4205 ft. El Dorado Chief Oil Co.'s Baker 1, 26-20-7, sd for drill stem td 2086 ft. Smitherman & McDonald's Miller 1, 17-23-8, tested dry 4118-4122 ft, dr 4177 ft.

DE SOTO PARISH — Benedum & Trees' State 1, 22-14-12, est. 25 mil ft gas spray, sw shut in well which went dead now swabbing td 2631 ft. Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up. Luke Case, Tr.'s, Boatright 1, 3-10-13, dr 1765 ft. Carlton Drilling Co.'s Stephens 2, 12-11-16, sd 350 ft. R. O. Roy's Sample 1, 1-13-14, rig up. Whittaker 1, 4-13-13, dr 2856 ft. Thorn Oil Co.'s Burford 1, 22-14-14, rig up. Warren & Carruthers' Ramsey 1, 33-13-16, sd 2100 ft.

EAST CARROLL PARISH—Palmer Corp.'s Carroll Land Co. 1, 21-19-11e, dry abn, td 3141 ft. Mitchiner 1, 8-19-11e, lcn.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1000 ft.

MADISON PARISH — Mid-American Pet. Co.'s Yerger 2, 51-16-14e, sd 285 ft.

NATCHITOCHES PARISH — Robeline O. & G. Co.'s Cassady 1, 7-8-9w, sd 1100 ft.

OUACHITA PARISH—G. E. Jordan's Wall 1, 12-18-3e, sd wo 3347 ft. Ouachita Nat. Gas Co.'s D'Arbonne B-2, 25-19-2e, dr 3349 ft. Phillips et al'sSchool Fee 1, 16-16-4e, dr 2340 ft.

RAPIDES PARISH—G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

RED RIVER PARISH — Rock Pet. Co.'s Piersen 1, 12-14-11, swabbing to test 9 ft sand td 1761 ft.

RICHLAND PARISH—Ruston Drilling Co.'s Etheridge 1, 28-17-6e, lcn. Wilson et al's Buie 1, 17-15-7e, rig up.

SABINE PARISH—Doern et al's Pickering Lbr. Co. 1, 17-4-11, dry abn td 4330 ft. Texas Co.'s Hamlin 1, 28-10-13, dr 4304 ft. R. L. Gay, Tr.'s Bowman-Hicks 2 (new series), 14-7-14, lcn. Sabine Lbr. Co. 1, 13-7-14, lcn.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12e, sd 3583 ft.

UNION PARISH—G. E. Carmatte's Tugwell 2, 21-22-1e, dk. Carter & Wingfield's Security Trust 3, 23-23-1w, dry abn, td 3502 ft. Clark A-3, 8-23-1e, dk; Hudson 2, 7-23-1e, sd wo 2190 ft; Hudson 3, 7-23-1e, sd wo 2278 ft; Security Trust 2, 7-23-1e, lcn. H. C. McDonald's Union Sawmill 2, 18-23-1e, sd wo 1500 ft.

WEBSTER PARISH—Jones et al's Elkins 1, 33-23-9, temp abn 2690 ft. Magnolia Pet. Co.'s H. H. Branton 1, 5-22-9, dr 1764 ft; M. Branton 1, 5-22-9, dr 2619 ft; Scroggins 1, 122-11, coring 2703 ft. Harry Morris' Lewis 1, 15-23-9, sd 2902 ft. Northwest La. Gas Co.'s Pineywoods Lbr. Co. 9, 37-23-11, dr 600 ft. Robt. Elmore's Mitchell 1, 31-23-9, dr 1950 ft.

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, temp abn, td 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd wo 1978 ft.

CASS COUNTY—Ravis & Pigg's Ed Lambert 1, Lambert sur, sd wo 1952 ft.

RED RIVER COUNTY — Shad Harper's Garland 1, Jos. Wagley sur, sd wt fuel td 1590 ft. D. M. Buffington's Hoosier 1, Hughart sur, dr 1105 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, dr 1425 ft.

SHELBY COUNTY — Chapparal Oil Co.'s Holt 2, Matthew Moore sur, dr 2635 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, lcn.

UPSHUR COUNTY—F. S. Freeland's Newsom 1, Butler sur, arr da test 2020 ft; Hudspeth 1, Jackson sur, dk pat.

KANSAS

BARBER COUNTY — Barbara Oil Co.'s Blunk 1, c ne nw 20-34-13w, st reaming, td 4755 ft.

BARTON COUNTY—McJilton et al's Evanston 1, se nw 34-17-11w, rig abn.

BUTLER COUNTY—LaRobb et al's Bronsenger 1, ne sw 24-27-3, ru. Barnsdall, Means 1, nw sw 34-27-2e, spd.

CHASE COUNTY—Griener & Fowler's Carson 1, ne ne 9-21-7, sd 3150 ft.

CLAY COUNTY — Roth & Faurot's Bradbery 1, se nw 21-9-4e, td 1725 ft.

COWLEY COUNTY—Pyle & Sutter's Lindstrum 1, se ne 9-35-4e, set 10-inch 1035 ft. Empire-Marland-Twin State's Feaster 1, nw ne 36-32-5e, dr 2485 ft. Wakefield & Osborne, Osborne 1, nw ne 18-30-5e, rig.

EDWARDS COUNTY—Amerada-Wilcox O. & G. Co.'s Teansil 1, nw cor 32-25-19w, sd 3780 ft.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw nw 4-15-20w, sd 1100 ft. Finney & Weimer, Freeman 1, nw se se 24-15-20w, spudded and sd. Empire's Wann 1, ne 31-12-19w, dr 3045 ft. Marland's Vine 1, sw se 27-11-19w, dr 3045 ft. Transcontinental's Boetcher 1, nw se sw 21-13-19w, sd 3558 ft. Phillips' Brull 1, c nw¼ 34-14-17w, spudded and sd. Phillips' Shutts 1, c ne¼ 5-12-17w, 337 bbls 24 hrs 3573-75 ft. Phillips' Schmeidler 1, nw cor 20-12-17w, ru. Labette Oil Co.'s Urbank 1, ne nw nw 19-15-16w, dr 2045 ft. T. B. Slick's Craig 1, cnw ne 8-11-16w, sd 3441 ft. Thomas Monctief's Johnson 1, sw ne 9-13-19w, ru. Derby & Empire's Krause 1, se nw sw 17-14-19w, dr 3603 ft. Hartman & Skaer, Knoll 1, ne nw

UNION ACME HOIST

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The empty bottom hook can be raised to load by simply pulling slack of load chain.

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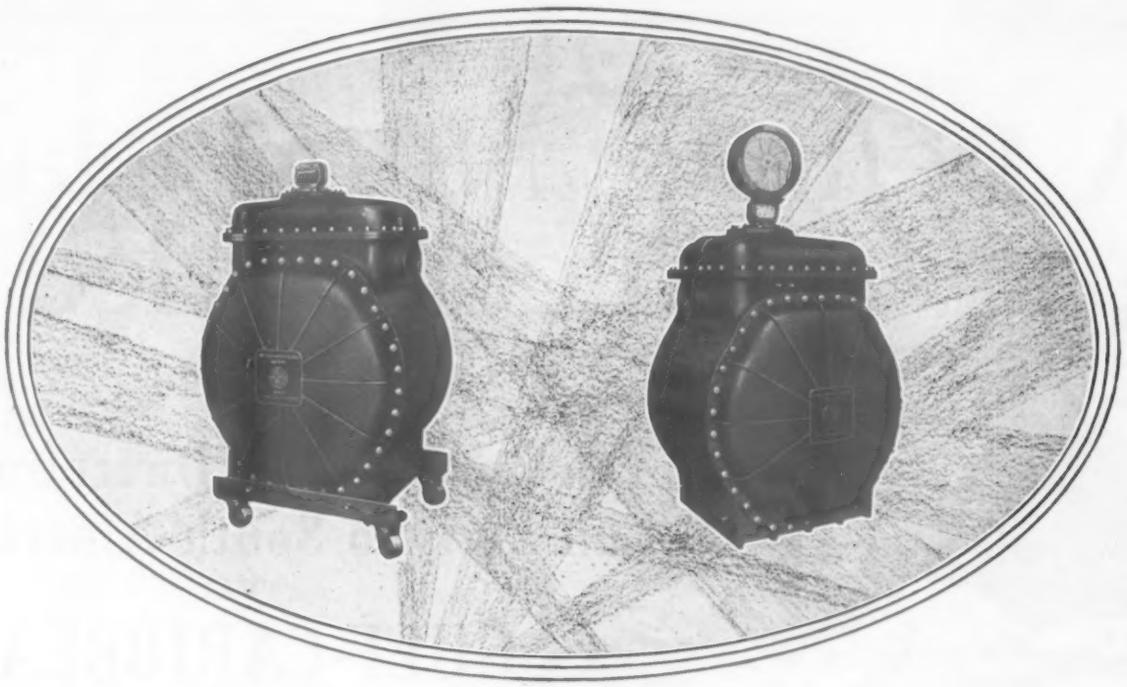

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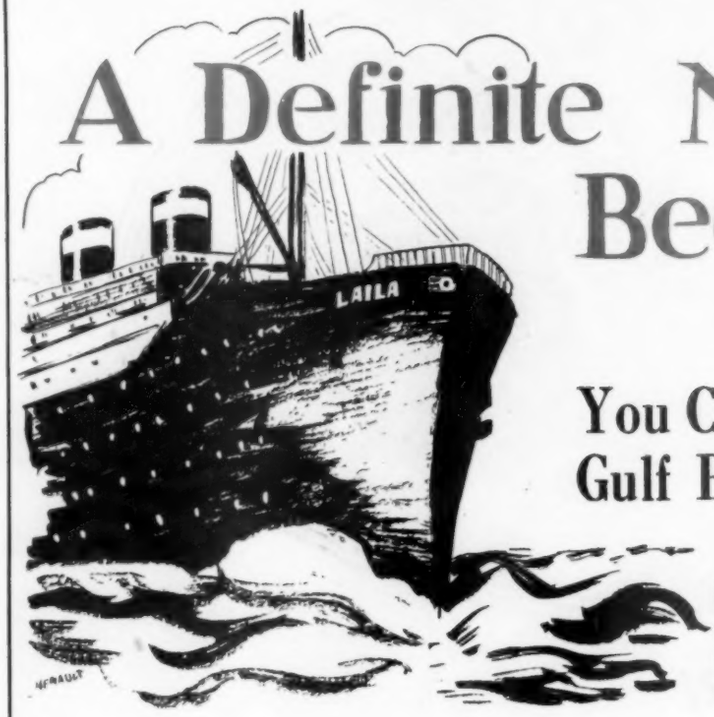

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17-13-18w, spd. Davis & Hazlett, Weiland 1, nec 1-13-16w, rig.

GEARY COUNTY—Pioneer Oil Co.'s Chase 1, se se 19-12-7, td 3600 ft d and a.

GREENWOOD COUNTY—P. H. Ballieu's Bright 1, ne sw 22-27-13, sd 1210 ft.

HARPER COUNTY—Amerada's Mendiville 1, c se se 24-34-6w, co 5360 ft.

HARVEY COUNTY—Margaret Gay Oil Co., Groue 1, nw ne nw 29-23-1w, timbers.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17, ru sd.

LANE COUNTY—Robinson et al's Dickerson 1, sw nw se 11-18-27w, 8-inch 2625 ft.

MARION COUNTY—Empire's Jensen 1, se nw 26-22-5e, dr 2155 ft.

MARSHALL COUNTY—Irwin et al's Cooper 1, ne nw 10-3-7e, spd.

MITCHELL COUNTY—Ben Gurley et al's Crombl 1, c ne ne 32-9-7w, dr 3780 ft.

MORRIS COUNTY—Hugh Faulder's Wendt 1, sw se se 18-15-5e, rig. Skelton et al's Iles 1, nw nw 25-16-5e, rig.

McPHERSON COUNTY—McPherson County Gas Co.'s Stein 1, sw ne sw 17-18-1w, dr 2915 ft; Gustafson 1, one ¼ 9-17-2e, dr 3065 ft. Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, dr 1435 ft.

OTTAWA COUNTY—Anderson et al's Bank 1, ne nw 28-10-2w, sd 2820 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

PHILLIPS COUNTY—Watsonian Oil Co.'s Markiein 1, ne sw 21-3-19w, dr 3015 ft.

RICE COUNTY — Allison & Fitzwilliams' Boland 1, ne sw ne 36-19-8w, cellar.

ROOKS COUNTY—Krueger et al's Poore 1, ne ne 14-8-16w, dr 3227 ft. Prairie's Sandberg 1, c sw¼ 20-9-18w, rig; Gick 1, c se, 22-9-19w, rig.

RUSH COUNTY—Danciger O. & R. Co., Pinonka 1, 17-19-17w, timbers. Sinclair's Beiching 1, nw ne nw, 9-16-16w, 2925 ft.

RUSSELL COUNTY — Midwest Ex. Co.'s Austin 1, ne ne 36-12-16w, 3 bbls oils per hr 3075 ft.

SALINE COUNTY—M. Esty et al's Peterson 1, c ne 6-16-5w, spd and sd. Nathan-Jones et al's Robertson 1, nw sw 27-14-2w, ur 8-inch 2579 ft.

SEDGWICK COUNTY — LaRobb Oil Co.'s Davis 1, ne sw se 36-25-1w, dr 3155 ft. Bu-Vi-Bar Oil Co.'s Steel 1, se cor 1-26-2w, set 6-inch 3070 ft. Barnsdall's Samuels 1, ne nw 24-25-1e, fsh 1400 ft; Faber 1, sw nw 6-27-1w, dr 2475 ft. Van Zandt & Mason's Fox 1, c nw sw 19-25-1w, dr 2625 ft. Connell Oil Co.'s Cross 1, ne cor 27-25-1, dr 2100 ft. Morgan et al's Corn 1, sw ne 28-25-1n, rig.

SHERMAN COUNTY—A. L. Henson et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, sd, td 1160 ft. McKenna et al's Hamn 1, nw cor 10-33-38w, dr 1510 ft. Trees Oil Co.'s Unknown 1, sw ne sw 2-35-38w, skidding rig.

SUMNER COUNTY—Geo. Dickey's Know 1, sw ne 3-35-1w, hfw Wilcox 4244-48 ft. Gypsy's Williams 1, nw se sw 16-35-3w, cement cave hfw 4280 ft. McCulloch et al's Tuttle 1, sw ne 29-34-1w, rust 4160 ft. Otstot et al's Volker 1, nw ne 9-35-1e, rig. Helmerich & Payne's Warlick 1, se ne 8-34-2e, dr 3570 ft. Davidson et al's Strickland 1, sw se 12-35-1w, rig.

BARBARA COUNTY—Roland et al's Pickens 1, ne nw ne 27-30-14w, sd 4132 ft.

TREGO COUNTY—Central Commercial Oil Co.'s Ellis 1, ne sw ne 20-13-21w, dr 3020 ft.

WASHINGTON COUNTY—McCool & Vincent's Linn 1, nw ne 27-4-3e, ru.

MOUNTAIN STATES

MONTANA

BIG HORN—Texas-Montana Production Co., 2, 21-6s-35e, cem 188 ft.

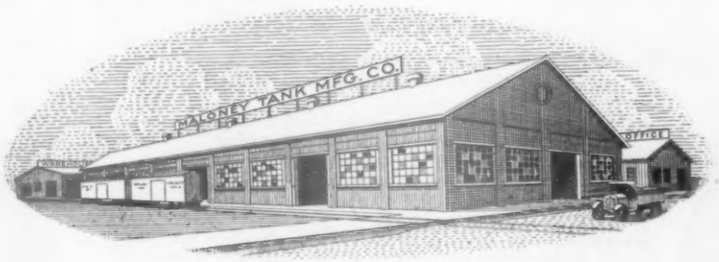
BROADWATER—New Day Oil Co.'s 1, ne 29-5n-1e, dr in hole full of water.

BLAINE—Ohio Oil Co.'s Winngert 1, 3-34n-32e, dr 2150 ft.

CASCADE—Eden O. & G. Co.'s 27-18-4e, td 670 ft. U. S. Pete Co.'s Miller 1, 8-21-4e, wait cas 935 ft. John E. Winther et al's Power 1, 11-22-1e, td 1850 ft.

CARBON—Ohio Oil Co.'s Northern Pacific 1, 11-7s-21e, fsh 4458 ft. Local Oil Co.'s 1, 25-9s-25e, no report.

CHOTEAU—Geraldie O. & G. Co., ne 1-21-



To our good friends in the Oil Industry, the members of the Maloney organization extend best wishes for happiness at the Christmas season and prosperity through the New Year

MALONEY TANK MFG. CO.

TULSA, OKLAHOMA

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MALONEY

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and Save the Difference

We have the following pipe in Oklahoma that was purchased new and used in one well:

475'	5½"	70-lb. used casing
1000'	12½"	50-lb. used casing
2200'	10"	40-lb. used casing
2000'	8"	32-lb. used casing
3800'	6⅝"	24-lb. used casing

We will rent this casing or any other pipe which you may need. Let us finance your operations by carrying your pipe and casing investment for you.

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11e, underr 1250 ft. Williston-Shelby O. & G. Co.'s Flack 1, 12-28-11e, sd 2675 ft, will resume.

CUSTER—Montana Belle, ne 28-8n-45e, dr 1035 ft last report.

FERGUS—Melton Corp., 1, se 24-21n-17e, td 2665 ft. Judith Basin Oil Co.'s 1, 33-19n-12e, sd 1925 ft, wait casing.

GALLATIN—California Co.'s Ringling 1, 35-5n-7e, fsh tools 595 ft.

JUDITH BASIN—Gem Oil Co., 15-16-10e, rig up.

LIBERTY—Sunburst O. & R. Co., Bear's Den 1, nw 17-36-6e, dr 1050 ft. Square Deal Pete., Johnson 1, se 1-32-7e, sd 3025 ft. Mid-Rocky Dev. Co., Federal Lands 1, 7-33-73, sd 1500 ft. Western Natural Gas Co., 22-37-4e, sd 2000 ft, ready to drill in. Cypress Oil Co., State 1, sw 36-28-6e, sd 450 ft crew sick with flu.

MUSSELSHELL—Laffea Oil Co., 1, 6-10n-25e, lcn.

PONDERA—Trapp Syndicate, Hover 1, 35-28-15e, td 1850 ft.

STILLWATER—J. S. Stewart, 5-2n-22e, dr 1900 ft.

SWEETGRASS — Shoshone Consolidated 1, 23-2n-15e, dr 4010 ft, dr ahead, oil and gas showing.

TETON—Texas Pacific, 12-22-1w, moving in. Mitchener et al, Mattoon 1, sw 3-23-1w, dr 1375 ft.

TOOLE—Monalta Oil Co., 1, 1-37-4w, spudding. Wm. J. Mahen 1, 10-31-1w, sd 1900 ft.

UTAH

GRAND—Utah Southern, Salt Valley 1, 13-23-21, contr completed to 3000 ft. Utah Southern, Shafer 1a, 36-26-20, sd 2502 ft. Navajo Pete Co., 2-29-21, dr in, 8¼-inch set at 2830 ft. Intermountain Venture Co., 1, sw 27-21s-19, sd 1602 ft. Big Six Oil Co. and Utah Oil Refining Co., Randall 1, 10-22-19, fsh 1710 ft. Brendell Sons, Crescent Eagle 2, 9-22-19, resuming at 100 ft. Cisco Union O. & G. Co., 20-21-22, spudded.

DUCHESNE—Utah Southern Oil Co., Pleasant Valley 1, 29-4-1, run run 10-inch at 1804 ft.

SAN JUAN—Boulder Knoll O. & G. Co., 17-34-25, prep to resume at 2640 ft. Navajo Pet. Co. of Califonia, 1, 13-35-24, lcn.

UTAH—Diamond Oil Co., 3, ne 29-8s-5e, dr 1700 ft.

WAYNE—Phillips Pete Corp., 1, 16-27-16, fsh 4250 ft.

WYOMING

ALBANY — Union of Calif. 1, 1-16-76, dr 2062 ft.

BIG HORN—Utah Southern Oil Co., 3, 26-56n-97w, prep to test at 3765 ft. Producers & Refiners, 3, 24-56-98, changed to rotary, td 2708 ft. Prairie Oil & Gas Co., Chilcote 1, 35-56n-95w, dr 1475 ft. P. & R., South Frannie 1, 7-57-97, run 10-inch at 1270 ft.

CARBON—P. & R., No. 3, 2-19-88, dr on iron 3926 ft. P. & R. O'Brien Springs 5, 12-24-88, rigging. Graybeal Synd., 16-28-81, temp susp 5184 ft. Producers Oil Corp. and Redfeather Oil Co., se 35-12-92w, ready to resume, td 1005 ft. W. J. Davis, 6-16-92, lcn for deep test.

FREMONT—P. & R., Muskrat 2, nw 1-33n-92w, lcn. Gates & Holman, material on lcn. Kinney-Coastal 1, 22-3n-1w, rig up.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, dr 250 ft. Westland Oils, Inc., 23-44n-95, rig. MacPherson Oil Co., 2-44n-96w, dr 3200 ft, show at 3103 ft.

JOHNSON—Matthew Foreman et al., Crazy Woman 1, 7-47-82, will abandon and drill new test.

LINCOLN—Midwest Ref. Co., Waterfall 1, 35-22-115, sd 1765 ft, dr water well. Midwest Refining Co., Little Grey's River 1, 25-37-113, dr 743 ft, boiler trouble.

PARK—Gebo Royalty, Inc., 1, 2-47-100, dr 1400 ft. Calif. Explo, Co. and P. & R., Pitchfork 1, 14-48n-102w, cemented 20-inch at 225 ft. Resolute Oil Co., nw 17-57-101, dr 1900 ft. Cody Pete, Nelson 1, 4-51-102, dr 1900 ft. Oregon-Wyoming Oil Co., 1, sw 30-52-101, td 1100 ft. Ohio Oil Co., Pulley 1, 27-53-101, dr in at 4764 ft, 3300 ft oil in hole. Lenco Oil Co., Pulley 1, 25-53-101, dr 500 ft. Calif. Explo. Co., 1, 29-48-103, sd 200 ft. Midwest Refining Co., 36, 25-58-98, lcn. Midwest, se 23-58-98w, lcn.

SWEETWATER — Prairie O. & G. Co., Tucker 1, 18-13-99, dr 2400 ft. Ohio Oil Co., Humphreys 1, 2-12-101, dr 1200 ft. Sormir Pete Co., 13-21-100, stand 1335 ft.

SUBLETTE—California Co., Wyss 1, 12-32n-

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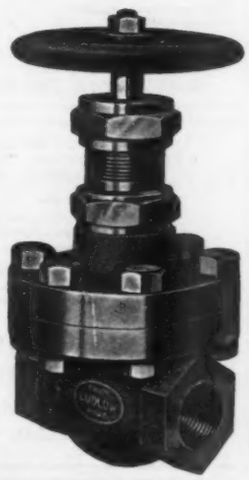

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HIRSCH, BROWN AND SUSMAN
Attorneys at Law
Bankers Mortgage Building,
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Specializing in Oil Law and Land Law

115w, sdtr bit, 1010 ft. California Co., Buchell 1, 11-29-115, dr 2254 ft.

UINTA—California Co., U. P. 1, 7-17-116w, undrr 2131 ft. E. L. Doheny, 6-14-118, dr 2300 ft.

WESTON—Wyoming Drilling Synd., ne 15-44n-64w, swedging pipe after delay by fsh job.

COLORADO

ARCHULETA—Juanita Oil Co., Harvey 1, sw 4-32n-3w, standing 725 ft.

BENT—Marland Oil Co., Pipe Springs 1, se 27-29s-49w, sd water shortage 3987 ft.

JACKSON—Producers & Refiners, State 1, ne 2-6n-81w, sd 1900 ft.

LAS ANIMAS—Alavier Pete Co., Branson 1, ne 3-35s-58w, ready to spud. Parker Club-Kinney Coastal, Fee 1, se 4-28s-68w, water tank erected, standing at 1350 ft.

LA PLATA—Childers Dr. & Pr. Co., Dry Mesa 1, 29-32n-14w, sd to refinance, td 820 ft. Royal P. & R. Co., Red Mesa 1, 27-33n-12w, sd 650 ft, fuel shortage.

LINCOLN—Kelley Oil Co., State 1, ne 36-14s-57w, sd 1415 ft, oil show 1400 ft. Boiler moved back, will resume drilling.

MESA—Peerless Oil Co., Hoel 1, ne 23-8s-104, td 2058 ft, ready to deepen.

MORGAN—Badger Creek O. & G. Co., Kent 1, sw 2-50n-10, dr 1365 ft.

MOFFAT—Ohio Oil Co., State 1, 16-12-100, dr 2975 ft. Alliance Oil Co., Milliken 1, 14-4n-92w, suspended at 3575 ft. McLaughlin et al, Williams 1, 2-3n-91w, spudding 125 ft. McCormick et al, Sales 1, se 28-4n-92w, sdtr tools 2700 ft.

RIO BLANCO—White Eagle O. & R. Co., Fordham 1, sw¼ 9-2s-96w, dr 910 ft.

YUMA—Parker Club, sw 7-2s-43, run 15½-inch to 815 ft.

WELD—Platte Valley Pet. Corp., Patterson 1, sw 24-6n-61w, td 4149 ft.

NEW MEXICO

CHAVES—Snowden & McSweeney, Merchant 1, ne 27-15s-23e, undrr to btotom, td 3458 ft. R. E. Neal et al, Russell 1, 21-14-25e, undrr at 1100 ft. Warman et al, 1, sw 23-13s-24e, stand. 215 ft.

DE BACA—Matador Oil Co., State 1, sw 6-4n-20e, dr 612 ft. McAdoo 1, ne 16-1s-27e, ready to resume, td 4190 ft. Transcontinental Oil Co., McWhorter 1, 6-35-22e, 15½-inch set at 860 ft.

GUADALUPE—Navajo Oil Co., Goard 1, 10-3n-17e, dr 2850 ft.

LEA—Midwest Ref. Co., Farnsworth 19, 12-26-37e, dr 3900 ft. Midwest, Farnsworth 13, 13-26-36, mvg in. Marland, Eaves 1, 19-26-37, fsh tools 2969 ft. Marland, Sholes 1, 19-25s-37e, fsh tools 3034 ft. Marland, Lynn 1, 26-23-36, change to cable at 3224 ft. Marland, King 1, ne 26-25s-32e, abn 4325 ft. Marland, Brooks 1, sw 8-20s-33e, fsh 3475 ft. Marland, Danciger 1, 7-23-36e, abn 4005 ft. Marland, Reed 1, 22-20s-36e, dr 1125 ft. Marland, Meyers 1, 26-20s-37e, dr 2000 ft. Marland, Warren 1, 20-20-36e, dr 1200 ft. Marland, Lockhard 1, 31-21s-36e, dr 1860 ft. Marland, Slattery 1, 7-22s-34e, dr 3970 ft. Gypsy Oil Co., State 1, 34-21s-36e, dr 3780 ft. Exploration Co., Record 1, 26-19s-35e, td 4556 ft. Morton et al, State 1, ne 32-11s-38, sd 100 ft. Texas, Lynch 1, se 34-20-34, ready to spud. Texas, Sheppard 1, ne 6-26s-37e, dr 2997 ft. Texas, Cagle 1, se 9-26s-36e, coring 3200 ft. Texas, Humphreys 1, nw 18-20s-32e, lcn. Texas, Moberly 1, se 17-26s-37e, wtg parts. Curtis Dr. Co., Nixon 1, 22-18s-34e, wait pipe, td 1150 ft. C. E. Reynolds Dr. Co., Anderson 1, 29-13s-37e, fsh 5260 ft. Cranfill & Reynolds, State 1, se 23-26s-36e, dr 3155 ft. Skelly Oil Co., Joiner 1, se 26-25s-36e, casing trouble, td 3251 ft. Hill & Abel, Maechtel 1, sw 5-26s-33e, dr 1100 ft. Maljamar Oil & Gas Corp., Pearsall 2, 30-17s-32e, dr 2025 ft. Empire Gas & Fuel Co., State 1A, nw 12-21s-34e, dr 810 ft. Texas Pacific Coal & Oil Co., State 1, sw 22-13s-36e, rig up. Prairie O. & G. Co., Slattery 1, ne 22-22s-34e, lcn. Henderson et al, McDonald 1, se 18-20s-34e, spudding 100 ft.

ROOSEVELT—J. T. Keegan et al., Pepper 1, 6-1s-36e, ready to bld rig. Smith & Solan, Lovern 1, se 4-3s-35e, lcn.

SAN JUAN—Continental Oil Co., Munoz 17, 2-29-19, sdtr tools, td 6338 ft. Dorothy Oil Co., 29-30-9, undrr to 712 ft. Huerfano Oil Co., Wiltbank 1, 25-29-11, stndg 800 ft. San Juan Pete Co., 1, 9-29-13w, sd 2950 ft. Kirtland Dr. Co., Hunt 1, 10-29-15, td 450 ft. Kutz Canon O. & G. Co., Day 1, 29-28-11, dr 527 ft. Midwest Refining Co., State 1, se 36-22n-14w, td 3075 ft., water flowing. Blackrock Oil Co., 1, sw 11-25n-13w, sd temp, 1550 ft., bad roads. Iowa Oil Synd., Viles 2, 28-29-11, stand. 802 ft., bad roads. Angel Peaks Oil Co., Kutz Canon 1, 11-28n-11w, undrr to 1420 ft. R. R. Burke et al, Deneen 1, 18-21-13, sd 1006 ft. Hall et al's 1, 31-22n-13w, sd 507 ft. Milwaukee-New Mexico Syndicate, Beardsley 1, 30-28n-11w, sd 1100 ft.

SAN MIGUEL—E. Adams et al, Deason 1, 14-15n-16e, sd 1235 ft. Benedict-Wilson 1, ne 25-17n-16e, dr 745 ft.

SOCORRO—Arnold et al, 2, ne 13-6s-1w, dr 1345 ft.

TORRANCE—Bluhall O. & G. Co., 20-6n-10e, wtg cas at 1444 ft. Hall et al., Pinos Wells 1, sw 25-3n-13e, stndg 400 ft. Sinnock et al, Kutchin 1, ne 13-7n-7e, ready to spud.

VALENCIA—Acme Oil Co., New Mexico-Arizona Land Co., 1, 26-6-3, try to lower casing. Rio Puerco Oil Co., New Mexico-Arizona Land Co., 2, nw 13-6n-2w, wait pipe at 3145 ft.

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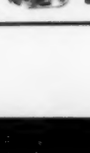

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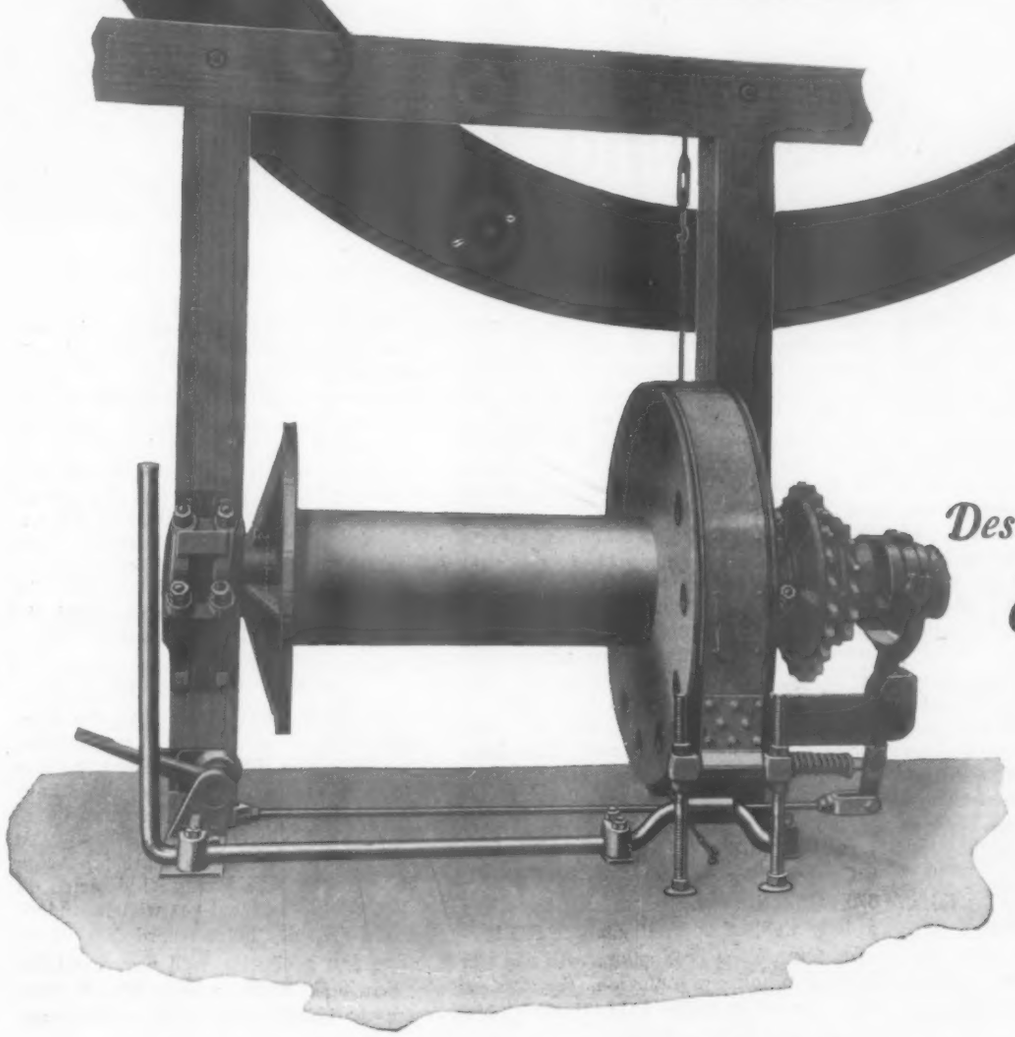


Descriptive Bulletin No. 14N. On Request

Say you saw it in The OIL WEEKLY

The 1925-27 Osage Indian Council seated outside the agency building under the "Million-Dollar" elm, where a nod of the head raised land bids past $1,000,000. Top row, left to right: Gale Alberty, Richard Petsemore, George Alberty, Charles Carter, S. S. Kennedy and Wilson Kirk. Second row: Frank Lessert, Clem Denoya, Supt. J. George Wright, Chief Fred Lookout, Francis Revard and William Pryor.

The Osages and Their Oil

By WALLACE DAVIS

Staff Representative

BACK in 1868 the old Osage fathers whooped "All we want is a square deal!" and Uncle Sam gave them $300,000,000 in oil. Approximately $221,890,000 of this has already been dished out in periodical payments. The balance of seventy odd millions, comes under the class of ultra-conservative estimates, and is still being dribbled out like clock-work, as secure as choice gilt-edge bonds. If the Osage Nation's oil reserve continues to play square as in the past the above estimated figure might be hiked another score of years' fine automobile supply for the Indians.

After the final treaty in 1868 was signed by Principal Chief White Hair (Pawhu Skah, from whom Pawhuska, Oklahoma, took its name) and the Southern Kansas branch office of the United States government, everybody concerned went off happy—for the government didn't know it was giving the Osages any more than the Indians knew they were getting.

The Commissioner of Indian Affairs, commenting on the Osages and their new home in his annual report in 1872, described their reservation as being bounded on the north by the south line of Kansas, east by the ninety-sixth degree of west longitude, and south and west by the Arkansas River, and containing approximately 1,760,000 acres. "By the act of July 15, 1870," the comment went on, "Provision was made for sale of all the lands belonging to the Osages within the limits of Kansas and for their removal across the line into the Indian Territory. They still follow the chase, the buffalo being their main dependence for food. They have since their removal begun farming to some extent, having already about 2000 acres under cultivation. Their agent reports the reservation poorly adapted for civilizing purposes, there being only one small valley of fertile soil, barely affording enough good farming land for 4000 Indians. Having just located, they have at present but one school in operation, with an attendance of 38 scholars."

But what a fine oil can Osage County turned out to be!

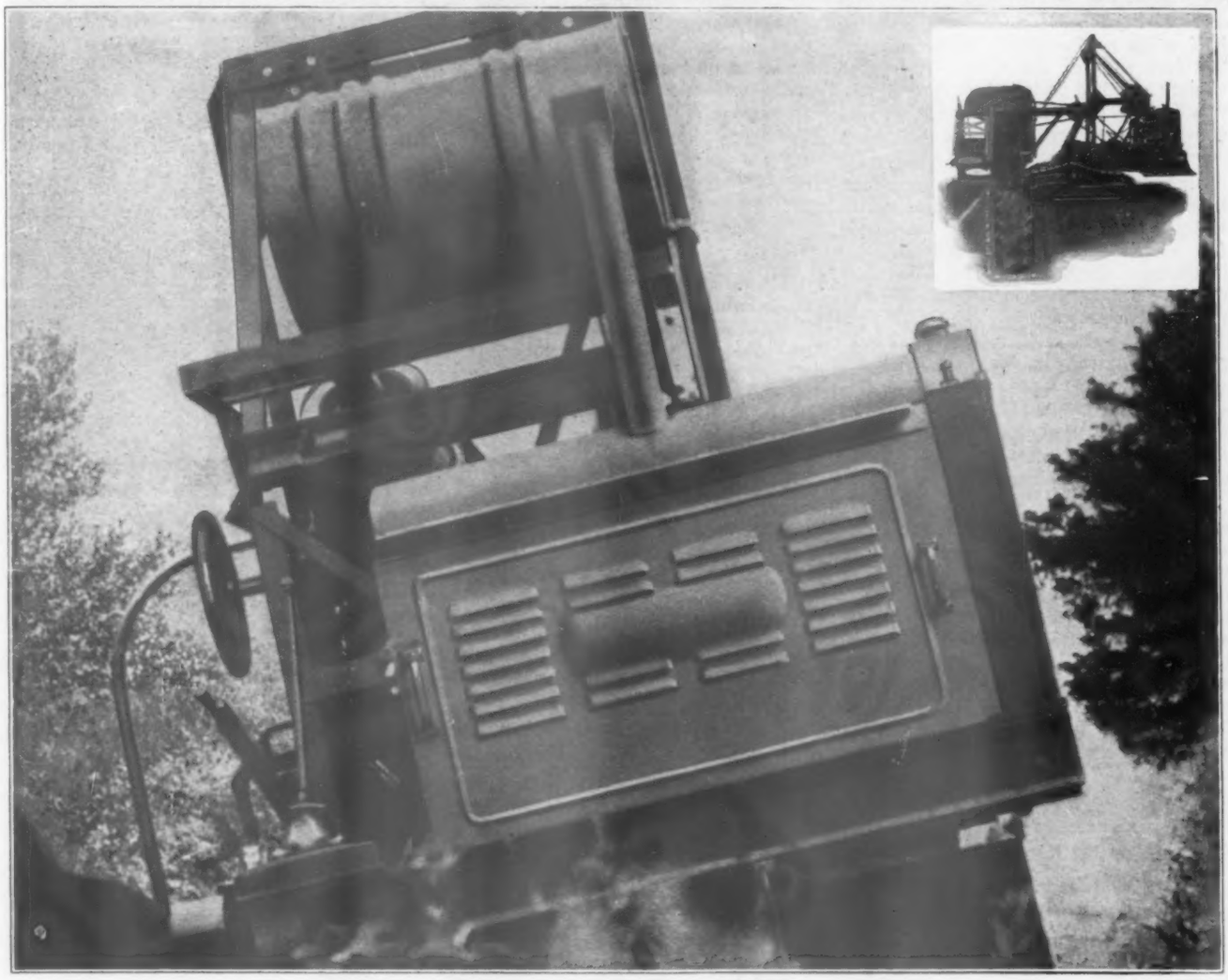
Osage production to July 1, 1928, totaled 370,420,877 barrels, and at that time had a daily yield of approximately 58,000 barrels. Out of this production, with gas and natural gasoline production, the Osages have reaped roundly $112,475,000. This, with $109,416,479.84 obtained from bonuses from oil and gas leases, represents the approximate $221,000,000 received from mineral rights given them by the Act of June 28, 1906, until April 8, 1931, and later extended to April 8, 1946, by the Act of March 3, 1921. The present oil, gas and natural gasoline yield from the Osage, plus bonuses from 966,000 acres yet unsold and the probable production from this and other acreage sold but undrilled, represents the future income for the Osage tribe off their "barren land the government wished off on them."

Osage Oil History

The Osage Nation has been the most consistently active oil area of any producing territory in the world. Since the first operation was started in 1897 there have been 16,042 wells drilled in the county to July 1, 1928. Of this number 10,003 oil wells and 790 gas wells are producing today. There have been 1991 depleted oil wells and 508 depleted gas wells abandoned, and 2750 dry holes recorded.

The first producing well was completed by Edwin B. Foster, who in March, 1896, secured a blanket lease of the entire Osage

VERTICAL BOOM MEANS SPEED—OVERLOAD RELEASE MEANS SAFETY



Through frozen ground, coral rock, roots and such—through partially cleared brush—which other ditchers gladly "duck"—the "milling action" of their vertical booms is chewing out ditch. And on the straightaway, they provide digging speeds ranging up to 10 feet per minute—every minute.

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from Chief Bigheart for 10 years. This well, located in the northeast of the southwest of Section 34-27n-12e, one and one-half miles northwest of Bartlesville and 300 feet west of the Osage-Washington County line, had an initial yield of 20 barrels from Bartlesville sand at 1349 feet. It was plugged several years ago.

The first hole drilled in Oklahoma for oil is reported by old-timers to have been located along the north line of the northeast quarter of Section 13-29-10, about 150 feet south of the Oklahoma-Kansas line in Osage County. It was completed as a dry hole at 1100 feet in August, 1896, by the Cudahy interests.

No crude oil was marketed from Osage County until 1900, being shipped by rail at that time to Neodesha, Kansas, the nearest market, following the building of a railroad to Bartlesville in 1899. The first pipe line into this territory was laid as a single short unit in 1904.

Edwin B. Foster's 10-year lease on the entire Osage expired March 16, 1906, and a renewal was sought. A 10-year renewal was secured, but the block was limited to cover only east of Range Seven. Prior to expiration in 1916 the Foster interests sub-leased a portion of this region in blocks of one-half mile north and south and three miles east and west. This marked the first competitive development in the Osage. It was never operated on a common commercial basis, however, since the agreement whereby mineral rights were to be held in common by the Indian land owners was entered in the early days of the blanket lease.

At the expiration of the Foster lease in 1916 there were many producing wells in the eastern Osage. In the agreement that followed the Osages agreed that all leases in quarter section units where the daily production per well did not exceed an average of 25 barrels could be retained and operated by their owners; larger wells were re-sold with the purchasers paying the former owners the appraised value of equipment.

Beginning of Auctions

Public auctioning of Osage lands had its inception prior to the final cancellation of the Foster blanket lease, but only three sales were held before cancellation, and the tracts sold were outside the blanket tract, in the southeastern portion of the west half of the county. Thirty sales have been held since the auctioning of Osage lands started November 11, 1912, netting $108,242,559.36 for 793,718.65 acres out of the 1,215,844.91 acres offered in tracts of 160 acres each or, in some cases, part tracts.

Since the beginning of public auctioning of Osage County lands the purchasers lease the tracts for five years from date of approval, or as long as oil is found in paying quantities. The purchaser pays 25 per cent. cash and the balance in three annual payments at five per cent. on the deferred bonus unless he desires to pay cash outright.

The accompanying list shows the 30 sales with the amount of acreage offered at each, the amount sold, bonuses paid and the average price at each sale and the total acreage offered and sold, with the total amount of bonuses paid.

Different Royalty Fee

Another interesting angle of Osage leases is the distinct royalty agreement in force, which nets them a larger income per barrel than any other land owners. It was a piece of good fate in the old days when business was operated more on the horse trading basis that gave the Indians the royalty fee that prevails today, that of one-fifth on all oil from 160-acre tracts with a well average for the month of more than 100 barrels, and one-sixth on all oil from leases with well averages running under 100 barrels daily for the month.

Such a fee was agreeable to the purchasers of Osage leases in the early days, however, and, since the leasing was in charge of the government at that time as it is today, and since this was the established agreement, then it was not to be changed later to equal the royalty of regular commercial leases.

When Edwin B. Foster took the original blanket lease on the entire Osage the royalty agreement provided for the land owners to get one-tenth. On the renewal of this lease in part for another 10 years in 1906 the royalty was raised to one-eighth. At the time the Foster interests subleased the group of blocks to other operators, it was stipulated that the sub-lessors were to pay a one-sixth royalty for crude produced on these blocks, including the customary one-eighth to the Indians and an additional one-twenty-fourth to the Foster interests. And so the one-sixth royalty assessed the producers grew to be common with them, and when the time came to re-lease the properties they saw no objection to continuing with the one-sixth.

The one-fifth royalty grew out of discussions of the size of producing wells when the Osages agreed to give operators wells outright that were making less than 25 barrels. Since the Indians had been agreeable to such a concession the operators were willing to pay more royalty on wells of more than 100 barrels capacity. There had been few such wells, and few were expected to be drilled in the future. Thus the operators chalked their own line, and are still walking it.

Natural Gas Situation

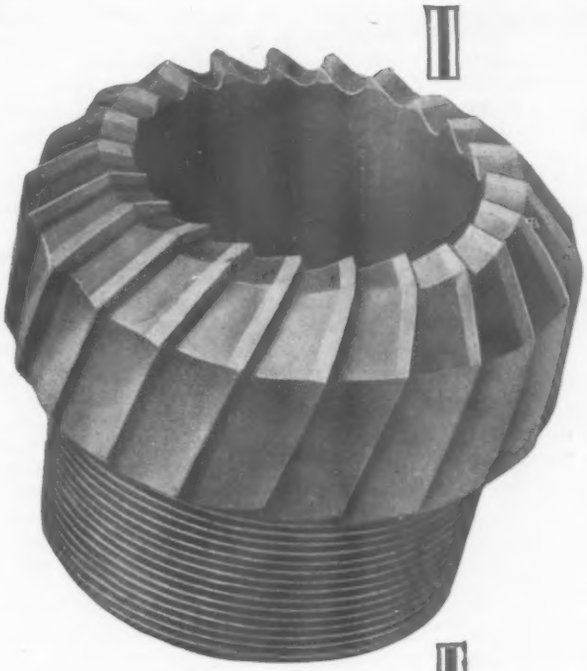
Mineral rights on crude oil and natural gas in the Osage are held separately, the concerns having oil rights being allowed only the amount of gas necessary to "operate their wells." Gas drilled in by a company having only the oil rights on the property automatically goes to the holder of the gas rights, and vice versa. In the event such rights are not sold at the time of the discovery, these rights are auctioned at a later sale.

Gas rights in the Osage are all taken, having been bought several years ago, except for a few small pieces. With the exception of a comparatively small amount of acreage held by towns and schools in

OSAGE LEASE SALES

Date of Sale—	Acres Offered	Acres Sold	Bonus	Average Per Acre
November 11, 1912	107.594	24.541	$ 39,436.00	$ 1.60
September 29, 1913	12,049	10.132	498,182.58	49.17
April 20, 1916	17,280	14,377	2,057,600.00	143.11
June 20, 1916	3.020	2,482	1,169,280.78	471.10
May 31, 1917	9,120	8,160	1,947,600.00	238.67
November 12, 1917	20,621	19.869	1,677,200.00	84.42
February 14, 1918	32,160	25,440	1,275,500.00	50.14
May 18, 1918	51,400	38.890	1,180,575.00	30.29
November 9, 1918	43,040	34,720	3,350.200.00	96.49
March 5, 1919	21.000	20,520	2,790.925.00	136.01
June 6, 1919	39,251	38,451	3,884,925.00	101 04
October 6, 1919	35,310	34.670	6,056,950.00	174.70
February 3, 1920	31,613	29,533	3,102,700.00	105.05
May 18, 1920	31.783	31,303	2,851.900.00	91.10
October 12, 1920	36,877	36,877	3,993.750 00	108.30
June 14, 1921	26,588.7	25.918.7	4,559,100.00	175.90
December 12, 1921	36,414.4	35,665.1	7,261,600.00	203.60
March 2, 1922	37,184.2	33,467.5	3,949.950.00	118.02
June 28, 1922	34,660.15	33,220.15	10,889.700.00	327.80
January 28, 1923	33,913.88	24,071.24	6,217,500.00	256.29
April 5, 1923	33.790.34	23 640	8,029,100 00	339.64
March 18-19, 1924	100.305.38	50,982.24	14,193,300.00	278.40
June 30, 1924	19.785.41	11,145.41	2,250.200.00	201.89
December 18, 1924	29,889.73	8,609.73	1,087.300.00	126.00
March 18, 1925	35.227.98	12,205.07	671,650 00	55 03
March 17-18, 1926	113,392.04	46,331.45	3,998.485.00	86.30
September 30, 1926	35,780.72	15.520	2.117 300.00	136.42
March 28, 1927	74,564.31	20,656.16	2,435,700 00	117.92
December 12, 1927	20,000	18.880	2,267,650.00	120.61
March 28-29, 1928	92,229.67	63,440 90	2.437.300.00	38.42
Total	1,215,844.91	793,718.65	$108,242,559.36	

Total Oil Lease Bonus	$107,704,940.78	
Oil & Gas Bonus	537,618.58	
Gas Bonus	1,173,920.48	
Grand total bonuses for oil and gas leases		$109,416,479.84



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the county the entire acreage is held by seven companies as follows:

Company—	Acreage
Ind. Ter. Illuminating Oil Co...	334,738.06
Kay County Gas Co.....	345,424.84
American Pipe Line Co.....	180,519.11
Osage Gas Production Co.....	166,446.01
Utilities Production Corp.....	165,263.57
Oklahoma Natural Gas Corp...	107,448.31
Oklahoma Power & Water Co.	104,708.32
*Miscellaneous	66,460.23
Total 1,471,008.45	

*Includes City of Pawhuska, 19,698.31; Pawhuska Oil & Gas Company, 6,413.98; City of Hominy, 2,410.64; and 37,937.30 acres held by small towns, schools and left unleased.

Approximately 100,000,000 cubic feet of gas daily is processed in the 40 gasoline plants operating in the Osage, and 70,000,000 cubic feet of dry gas is marketed daily. The Indians receive a one-sixth royalty on gas marketed, which averages 18 cents per thousand cubic feet, or a royalty of 3 cents per thousand. On natural gasoline the same royalty is obtained from net sales, but the prevailing arrangement between the gas producer and natural gasoline manufacturer allowing the latter two-thirds of the finished product for handling and manufacturing gives the royalty owners only one-eighteenth of the gross output from their gasoline. The yield of natural gasoline in the Osage during June amounted to 290,000 gallons daily, and later in the summer was averaging around 300,000 gallons, running the gasoline recovery per thousand cubic feet of gas near three gallons. The approximate 70,000,000 cubic feet of gas marketed includes dry gas produced and the residue from gasoline plants, which, with the exception of a few cases where tail gas is not desirable, is run into the commercial lines.

Headrights Getting Pay-Days

Of all the tolls that have been taken from the Osage there have been 2229 shares, or that number of headrights participating. This was the number of Osages, including adults and minors, when the rolls were closed July 1, 1907. More than 21 years have passed since then and more than 600 of the original enrollment have died, but the "ghost" still walks for that same 2229—for not a single member has died without leaving one or more heirs. Agency records showed that 605 of the original enrollment had died before July 1, 1923. At that time 476 had been born since July 1, 1907, but they do not participate in the payments except through inheritance. There have been 63 payments since the beginning of regular payments in 1915, and to the close of the fiscal year, June 30, 1927, each share had received $89,497.24, or total receipts amounting to $199,499,347.96.

The highest annual payment to the Osages came in 1926, when each headright got $13,400 from five payments. The highest single payments were in 1924, when only four payments were made of $3100 each. The following table illustrates how recent payments have dropped, resulting from a sharp decline in Osage County production and also a decline in the revenue from lease sales:

Year Ending June 30	No. of Payments	Amount of Each Share	Total Amount
1916	4	384.93	$858,008.97
1917	6	2,719.98	6,062,835.42
1918	6	3,672.33	8,185,623.57
1919	7	3,930.00	8,759,970.00
1920	9	8,090.00	18,032,610.00
1921	7	8,600.00	19,169,400.00
1922	4	7,700.00	17,163,300.00
1923	4	12,400.00	27,639,600.00
1924	4	11,600.00	25,856,400.00
1925	3	9,300.00	20,729,700.00
1926	5	13,400.00	29,868,600.00
1927	4	7,700.00	17,163,300.00
	63	$89,497.24	$199,499,347.96

It is interesting that oil has played the whole part in making the Osage Indians the richest people in the world, per capita. It is more interesting that they did not choose the Osage territory for its wealth, but took what the government gave them, for better or worse, the wide open spaces without an ear of corn, much less an oil well.

Interesting History

The Osages were never given anything. In reality their Osage County home came as a final land trade with the government, that of the treaty of 1868, after a long line of land swapping. And they might not have been poor today without their oil, having at one time owned the vast domain about the center of which the city of St. Louis, Missouri, is located.

Folk lore has it that the Osages, like all Siouan tribes, originally inhabited the region east of the Alleghanies, and migrated across the Mississippi River about 1200, to settle in the present Missouri Valley. Early in 1800 the tribe split, one group coming into Oklahoma's present location to settle along the Neosho and Verdigris Rivers. Through a latter deal with the government they gave up this land and took a reservation in Southeastern Kansas. Following the Civil War the government saw fit to rearrange some of the Indian reservations and it fell to the lot of the Osages to pack up and move again. Percentage was with them, and they finally drew a territory destined to win the pot. Trouble was not over, though, and after living for some time in their supposed new home, government agents found they were located on land owned by the Cherokees. So, again the blankets were packed and they moved west from a colony site near Bartlesville to the present location of Pawhuska, where the agency and a general trading post were established.

Pawhuska, "the city of terraces," which has grown from the original trading post to a modern little city of 10,000, has developed into the home town of the Osages. Although many of them have scattered to other parts of Oklahoma and a comparatively few to remote points of the country, Pawhuska is still home to the Osages. Modern customs have taken almost everything but the streak of blood from most of the younger generation of Osages. Continued inter-marriages have gradually faded the tan on the new members of the tribe as white blood has crept in to the point of leaving only a small fraction of original Indian that came to the Missouri Valley, but still there is a sizeable group of the platted haired Osages of old gracing the streets of Pawhuska to recall the memories of their forefathers. Riches have failed to take those glaring striped blankets from their backs.

Osage Government

The Osage tribe is responsible to the Secretary of the Interior Department of the United States through the Commissioner of Indian Affairs. The latter, as commissioner over all Indian tribes in the country, serves somewhat the position of a mediator between the former and the superintendent of the Osage agency, J. George Wright. The superintendent has at his service a general staff working out the details of Osage business matters. In the particular case of oil the actual contact work is handled by Wm. Ash Waid, who represents the government as chief oil and gas inspector in the Osage.

The Osage tribe is directly represented by a principal chief, an assistant chief and a council of eight members, elected by popular vote of the tribe for a term of two years. The election is held every second year for members to begin service June 30, date of the Osages' fiscal year. Great honor is attached to the holding of office as principal chief, assistant chief and council member, and preliminaries to election days are occasions of pow-wows of no mean significance. Campaigning is not greatly unlike that preceding any state or county election among the whites, except for its peculiar customs peculiar to

Osage Oil and Gas Production and Royalties

Year Ended June 30	Gross Oil Production, barrels	Oil, Gas & Gasoline royalties
1901	10,536	$ 603.25
1902	10,522	448.26
1903	52,217	2,957.71
1904	90,806	9,713.74
1905	1,868,260	128,897.12
1906	4,514,004	228,276.34
1907	5,547,167	301,580.48
1908	4,775,289	246,705.86
1909	4,816,462	248,013.53
1910	5,091,424	233,991.45
1911	9,418,769	517,601.21
1912	9,445,669	656,176.47
1913	7,787,030	778,300.22
1914	11,091,791	1,358,392.08
1915	7,257,788	524,252.52
1916	9,805,477	1,097,854.71
1917	9,943,919	3,417,815.95
1918	10,906,376	4,602,709.75
1919	12,138,086	5,420,674.71
1920	17,077,348	9,052,551.78
1921	20,621,614	11,308,746.20
1922	28,941,934	9,235,691.80
1923	41,810,178	14,072,541.61
1924	37,577,900	11,879,496.15
1925	33,662,179	11,144,492.63
1926	25,682,848	10,349,864.76
1927	25,884,734	10,386,837.61
1928	*24,590,550	**5,269,400.00
Total	370,420,877	$112,474,888.90

*Taken from A. P. I. figures.

**Estimated from prevailing prices for Osage oil averaging 35 gravity, taking into consideration both 1/5 and 1/6 royalty.

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Say you saw it in The OIL WEEKLY

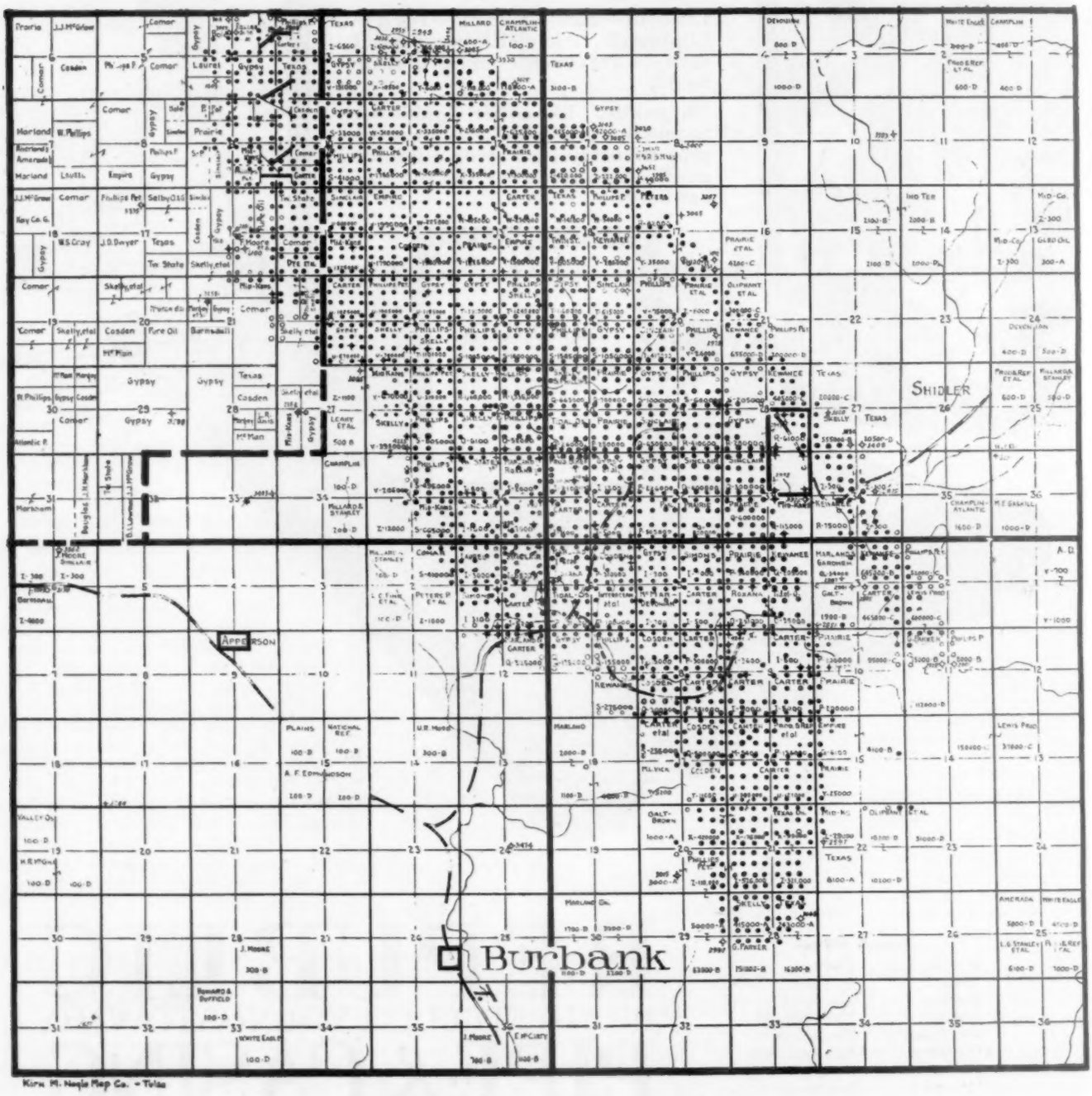
the Indians. It is a great honor to be nominated as a candidate by a group of friends, and the candidate respects the desires of these friends by waging his best fight for election. The voters are canvassed individually, great pow-wows are held with choice meats barbecued, and campaign festivities in many cases last for days. It is particularly an important item to gain the votes of Osages living at distant points, which has resulted in candidates offering transportation to these voters. The donation of railroad tickets a yard long has not been uncommon, and votes of tribe members living within a radius of 100 miles are sought by such inducements as delivery of the voter to the polls in fine automobiles. High powered automobiles have always been treasured as outstanding luxuries by the Osages, and the knowledge of candidates that "the finer the car the better chance for the vote" has placed some real competition in automobile supremacy on Osage County roads on election day.

The excellent co-operation shown by Osage councils in their workings with the government agents deserves prominent mention. They have, since the very beginning, demonstrated a keen sense of fairness, and have sought advice rather than made demands. Their attitude toward the whites has been whole-hearted friendliness. A fine example of their co-operation is their recent voluntary action to fall in line with the Oklahoma Corporation Commission to aid in quelling over-production of crude oil where the Osage Nation might be a contributing factor to "too high" a production. They submitted without argument in March, 1928, to having two newly discovered Osage fields restricted to 50 barrels per day while hazardous production continued to exist, and saw Osage County's daily crude yield decline 14,000 barrels in five months.

Principal Chief Fred Lookout, Sr., heads the Osage tribe in the present term, June, 1927, to June, 1929. Henry Pratt is assistant chief, and members of the council are as follows: George Alberty, Clement DeNoya, Sr., Frank Lessert, Jr., Rogers Leahy, Dick Pehtsamoie, Sam Kennedy, William Pryor and Francis Revard.

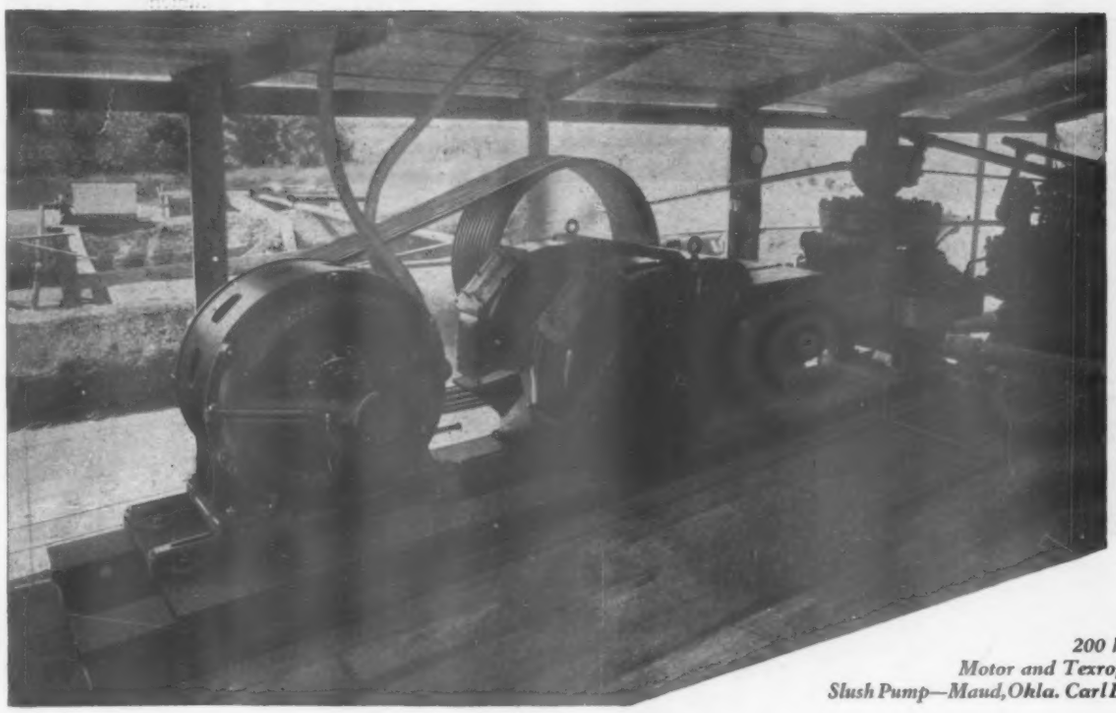
Burbank Field

Burbank field, bordering the western line of Osage County, stands out as the real prize of the Osages. The writer is concerned only with the Osage portion of Burbank in this story. It is well for the sake of statistics to describe the Kay County extension of Burbank as having



Kirn M. Nagle Map Co. - Tulsa

Burbank field, the cream of the Osages' Income.



200 h.p. Allis-Chalmers Motor and Texrope Drive operating Slush Pump—Maud, Okla. Carl B. King Drilling Co.

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UNTIL the advent of Texrope Drives, slush pump-drives were put in the same class as Missouri mules—necessary evils. Sometimes they behaved fairly well, but most of the time they gave trouble. Now a solution is here, as is evidenced by the number of operators successfully using Texropes for driving Slush Pumps.

Texropes cannot slip or run off the sheaves. The wedging action increases with the load, and results in a positive drive at all times. Texrope Drives require no lubrication, the multiplicity of belts is protection against breakdown, and the elasticity of Texropes insures a flexible drive.

Allis-Chalmers Motors and Slush Pump Controls are built for severe service and heavy overloads. Rigid frames and large bearings, together with conservative electrical design, insure a machine that will stay on the job when circulation means saving the hole.

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Say you saw it in The OIL WEEKLY

Interior Department officials visiting an 1800-barrel Burbank well. Left to right: Hon. Dr. Hubert Work, former Secretary of the Interior; Wm. H. McFadden, former v. p. Marland Oil Co.; Hon. Charles H. Burke, Commissioner of Indian Affairs; J George Wright, supt. Osage Agency; Charles C. Brown, formerly chief govt. oil and gas inspector. In front: Wm. Ash Waid, chief govt. oil and gas inspector.

produced in round numbers 27,304,000 barrels from 205 wells since discovery in 1921, and having attained a peak in 1923 of more than 34,000 barrels daily.

Burbank of the Osage produced to August 1, 1928, 126,424,847 barrels, or slightly more than 34 per cent. of the entire Osage Nation's crude. After discovery, May 20, 1920, the field reached its peak production in July, 1923, with 121,760 barrels daily yield, and during the life of the field to August 1, 1928, has had a daily average output of 42,240 barrels. Including the Kay County extension, the field has 22,170 productive acres, giving a recovery per acre of 6934 barrels.

First production at Burbank was discovered by Marland Oil Company May 20, 1920, when Bertha Hickman No. 1 had an initial of 700 barrels from Bartlesville sand at 2949-3001 feet. Location is in the northwest corner of the southeast quarter of the northeast quarter of Section 36-27n-5e. Development that followed this strike proved up the area for solid production within five years a distance of five and one-half miles southeast and four and one-half miles northwest with a proven strip averaging four miles wide. It is interesting that the second producer in Burbank field was completed at a location nearly three miles southeast of the discovery. It was drilled by Carter Oil Company in the northwest quarter of Section 9-26-6, and completed July 14, 1920.

A factor of importance about Burbank in the early days of its development was the government control of acreage, which regulated the intensity of the drilling campaign. Ranking among the world's largest fields, its peak of little more than 120,000 barrels resulted from the fact that expansion of drilling had to come as additional acreage was auctioned. There was not the rush of competitive buying as in commercial operating enabling the producers to step out and open new extensions to bring frenzied operating in offsetting. Twenty-one quarter-sections had been sold prior to discovery, having brought $62,500, or an average of $2976 per quarter at a sale November 9, 1918. After the discovery and starting of the drilling campaign new contracts were offered for sale as that previously sold was drilled and proven. Thus, the peak Burbank might have attained cannot be estimated.

As in royalties, the bonuses derived from Burbank acreage have been the cream of the Osage income. Burbank alone has furnished $62,485,000 of the $107,704,940.78 coming from Osage oil bonuses, or approximately 60 per cent. of the total. There have been 21 quarter-section tracts in Burbank field which have netted more than $1,000,000 each. Midland Oil Company hung up the record for high price bonuses by paying $1,990,000 for a quarter-section.

Burbank field was generally considered to be fairly well defined by the close of 1926, but early in 1927 an extension discovery one mile east of the old producing line brought to light a new producing structure, which, with offset development following more recent sales, has connected near Shidler townsite to the main field. This structure extends southeast as an arm off the main field, and, while indications are that a stretch of barren acreage divides the two structures, the new producing arm promises to be productive for a distance of two miles or more, in a solid strip toward the southeast, running parallel with the eastern edge of Burbank proper. This potentially productive acreage brought the highest prices at the two last sales, and today represents practically all of the activity in Burbank field.

The decline in Burbank within the past five months has been the most marked drop since the field's early development. Production in the Osage part of the field on August 1, was running 26,200 barrels as compared with 39,000 barrels on March 1. It was for this reason chiefly that operators in Oklahoma, while striving to limit a growing production in the state, agreed to accept recommendations for the sale of Osage leases on September 27, agreeing that Burbank was not contributory to the present over production and that the present low production there was subject to being somewhat increased.

Daily production in Burbank of Osage County for the first week in August, with the number of producing wells by companies was as follows:

Company	No. Wells	Avg. Prod.
Carter Oil Company	284	3180
Comar Oil Company	7	55
Devonian Oil Company	16	55
Galt Brown Oil Company	2	10
Gypsy Oil Company	204	2250
Kewanee Oil Company	89	5380
Laurel Oil Company	16	80
Lewis et al	1	190
Lorraine Oil & Gas Co.	15	40
Marland Oil Company	2	10
Mid-Continent Oil & Gas Co.	106	510
Midland Oil Company	36	200
Mid-Kansas Oil Company	44	675
Geo. Parker Oil Company	14	1385
Peters et al	10	465
Phillips Petroleum Co.	297	4585
Phillips-Delmar Oil Co.	16	240
Phillips-Skelly Oil Co.	180	1005
Prairie Oil & Gas Co.	142	1880
Producers & Refiners Corp.	20	110
Roxana Petroleum Co.	50	315
Simmons-Moore Oil Co.	25	100
Sinclair Oil Company	143	790
Skelly Oil Company	51	1255
Tidal Osage Oil Company	41	235
Texas Company	57	615
Twin States Oil & Gas Co.	24	110
Total	1901	25,725
South Burbank—		
Phillips Petroleum Co.	3	80
Prairie Oil & Gas Co.	13	415
Sinclair Oil Company	1	10
Midland Oil Company	3	50
Total	20	555
Grand total	1921	26,280

Burbank's huge production has come from Bartlesville sand, which is topped ordinarily at from 2920 to 2940 feet, owing mainly to the elevation. The sand thickness ranges from 30 to 80 feet, and has an average thickness in Burbank of from 60 to 70 feet. While the average initial yield from Bartlesville sand wells is characteristically lower than that of other producing formations in the Mid-Continent, the average life of production from the Bartlesville sand is held to be much longer. Burbank did not have the sensational producers that Cushing, Garber, Tonkawa and Seminole fields boast, but is safe to guess that the Osages will be getting good royalty from Burbank oil when the land owners' checks in some of the above fields have dwindled to figures of small significance.

At the end of the third year following Burbank's discovery there had been only 12 holes abandoned as non-paying. For the size of the field, this stands out among the good producing records. While more than this number have failed to pay, there has been only one hole drilled inside the producing limits of the field which has been absolutely dry.

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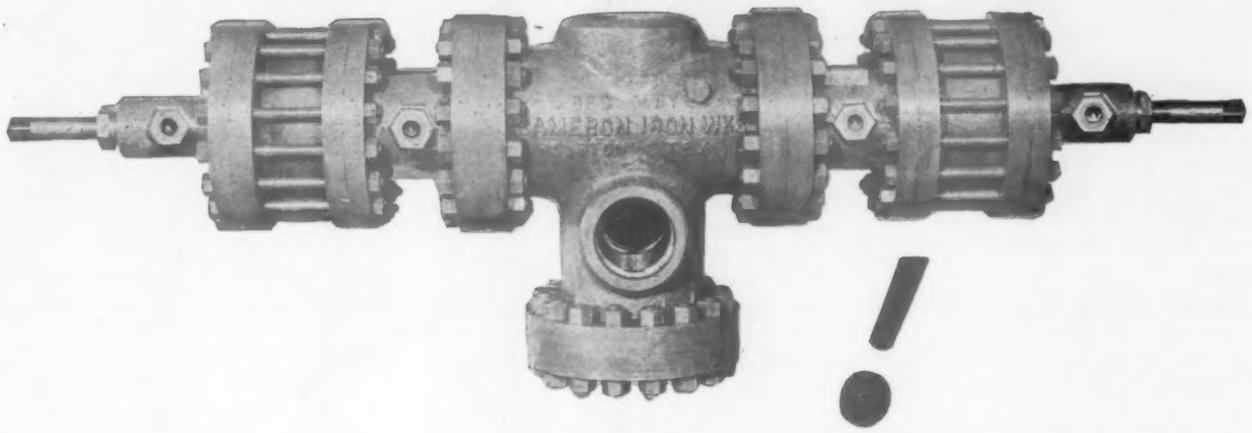

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Early Application of Electricity To Oil Well Pumping

By E. M. WISE
General Electric Company, Houston

IT has been supposed that the application of electricity to oil well operation is a comparatively new undertaking. However, this is not so, as it is almost as old as the electrical industry itself.

The very first operation of this character probably occurred about the year 1892, when an oil company of Sisterville, West Virginia, installed several three-horsepower motors for pumping wells. After a few years, however, these wells played out and the equipment was loaded on a raft on the Ohio River, to be moved to another location, but unfortunately the raft capsized in midstream and went to the bottom, where it probably now reposes.

Another early installation was made in 1894 by the Raymilton Oil Company of Raymilton, Pennsylvania, but this operated for only a very short time.

The next installation was made about 1897 or 1898, by the Forrest Oil Company near Washington, Pennsylvania. This company is now known as the South Penn Oil Company and is affiliated with the Standard Oil Company. This installation was first described to me by Fred C. Smith when he was president of the Galena-Signal Oil Company of Texas. Mr. Smith's uncle, Ed Crocker, was an official of the Forrest Oil Company at that time, and is still connected with the South Penn Oil Company. Among Mr. Smith's keepsakes is a little note book which he carefully keeps in the middle drawer of his desk, and which contains rough pencil drawings of the generator, switchboard, motors and control.

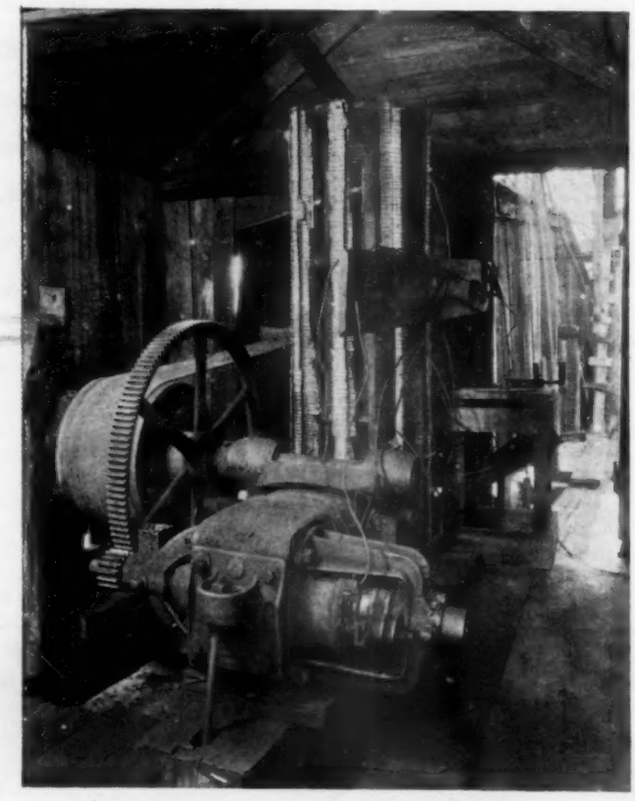
Mr. Smith asked me to visit this installation if I ever had the opportunity, and fortunately I did some time later, on a visit to Pittsburgh in connection with other business. I called on Mr. Crocker, who is now an official of the South Penn Oil Company and obtained a pass to look over the property. The B. & O. Railroad runs right through the field, and the nearest stop is Coffey's Crossing. Upon my arrival, I was very much surprised to run across Frank P. Criswell, whom Mr. Smith had described to me, and who was the engineer in charge of the plant for whom Mr. Smith had worked in the early days.

I found the original generator and motors still running and giving good service. The generator is a 65 kilowatt, 500-volt, 900-r.p.m., direct-current machine built by the Thomson-Houston Electric Company. The generator was originally driven by a gas engine which was later replaced by a new 125-horsepower, four-cylinder gas engine built by the Titusville Iron Company. Fourteen direct-current, shunt-wound motors, manufactured by the Sprague Electric Works, comprised the original equipment, and most of these are still in oepration. These motors are 15-horsepower in capacity, and each was coupled to a gear unit equipped with a pulley, belted to the bandwheel of a standard rig. In fact, the motor was applied to the pumping of the well in almost exactly the same manner that the modern two-speed, alternating-current, oil-well motor is now applied.

The number of motor-operated wells on this lease was increased from time to time until now nearly 60 motors of various makes are in use. These are, as far as can be ascertained, the only direct-current oil well pumping installations in the United States.

It might be interesting to note that the speed-controlling rheostat consists of coils of iron wire wound around a large wooden cylindrical structure about five feet in diameter and about 10 feet high. At that time the engineer in charge called them "rheosnitches."

If these old direct-current motors are still giving a good account of themselves, after 30 years of service, we may well expect that the modern alternating-current motor will last almost indefinitely.



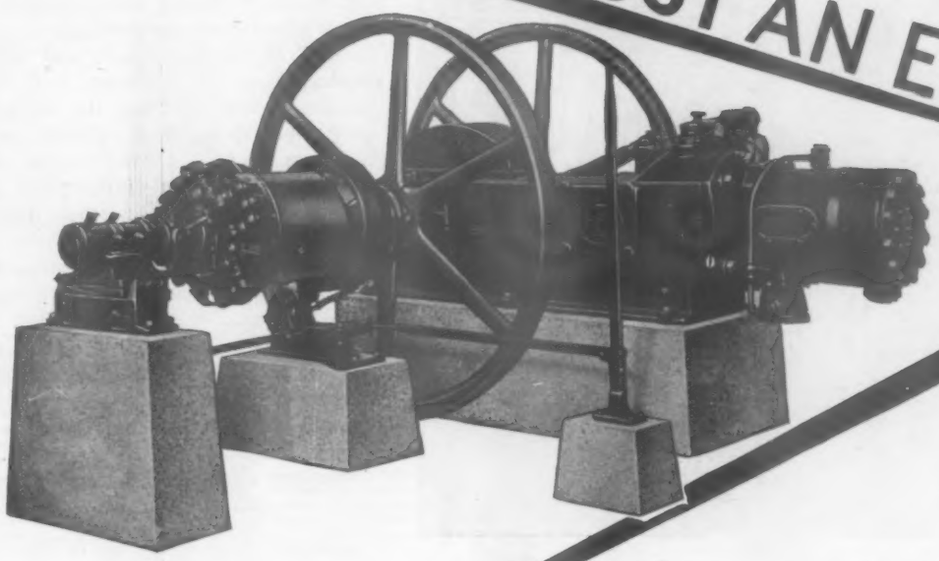
Sprague motor connected to oil pumping rig.

With further reference to this installation, I received the following letter just a short while ago from J. H. Steele of the General Electric Company at Pittsburgh.

"With reference to your letter of March 30, addressed to Mr. C. L. Reigal, of this office, we have finally secured the photographs of the oil pumping equipment you requested. We were referred to Mr. Perkins, superintendent of the Washington District, located in Washington, Pennsylvania, for final arrangements.

"Mr. Perkins has been superintendent of the Washington District since 1913 and informed me that Mr. Criswell, who was the engineer at the time of your visit, died four years ago. I was unable to see anyone who had been present when the equipment was installed, but it was Mr. Perkins opinion that the company at that time

MORE THAN JUST AN ENGINE



THE Bessemer Oil Field Engine is not merely a gas engine—it is a perfected power plant developed and built exclusively for oil country service. Feature by feature this Oil Field power source has been engineered and fabricated specifically to meet the rigid service requirements of operation under every conceivable field condition.

It is entirely enclosed—yet all parts are quickly and easily accessible. All moving parts will wear for years, but adjustment has been provided on all parts subjected to hard wear so that their years of service are materially lengthened. They are over-strength—yet excessive weight has been avoided. Their simplicity means less maintenance cost, and their long, uninterrupted service means less depreciation and consequently a lower power cost per working hour.

Judged from any angle, the Bessemer Oil Field Engine is a super power-plant for oil country service—unmatched in performance, outstanding in economy and the leader in investment value.

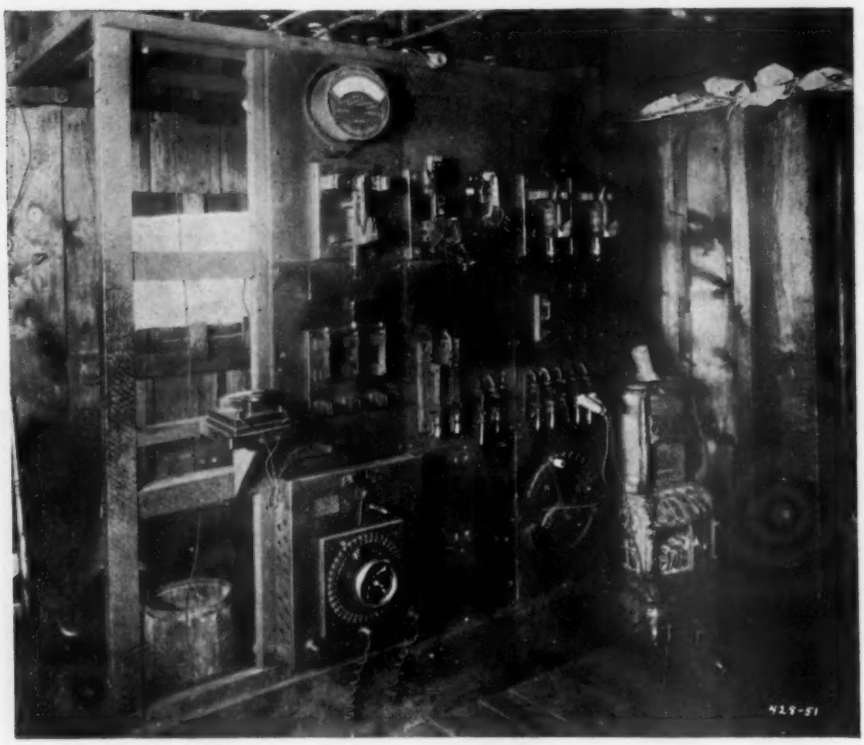
Watch it in operation, examine it closely, then judge for yourself. Also built in the 4-Cycle Type.

BESSEMER ENGINE COMPANY

62 York Street : : Grove City, Pa.

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS



Switchboard mounted on wooden frame-work.

was known as the Elcho Oil Company.

"We found the generator and motors very much as you described them, still working away, carrying overloads and operating nobly, without any attention except lubrication. I was told that none of the commutators had been turned down and that only two or three motor armatures had been rewound. The bearings have been repaired but not replaced. Mr. Perkins stated that the generator has been running frequently at 50 per cent overload and has not been touched in any way since 1911.

"The switchboard, as you noticed, is mounted on a wooden framework, and the rheostat mounted in the left lower corner is of the Thompson-Houston type 46-A. ITE breakers, rated 500 volts, 100 amperes, were originally furnished, but some of these have now been replaced by up-to-date carbon breakers."

"The Story of Pittsburgh Seamless" is a booklet recently published by the Pittsburgh Steel Products Company, Pittsburgh, Pennsylvania. The new booklet tells the story of the company in pictures, and has to do with the uses of seamless steel pipe and tubing.

The center spread of the booklet is an aeroplane view of Monessen, Pennsylvania, mills of the company, including blast and open hearth furnaces, rolling mills and finishing mills. Photographs on highly glazed pages of this booklet take the reader through the mills by departments, and intermittent sketches of reading matter outline a brief history of the company, its resources, methods of making seamless steel pipe and tubing, and uses of the products.

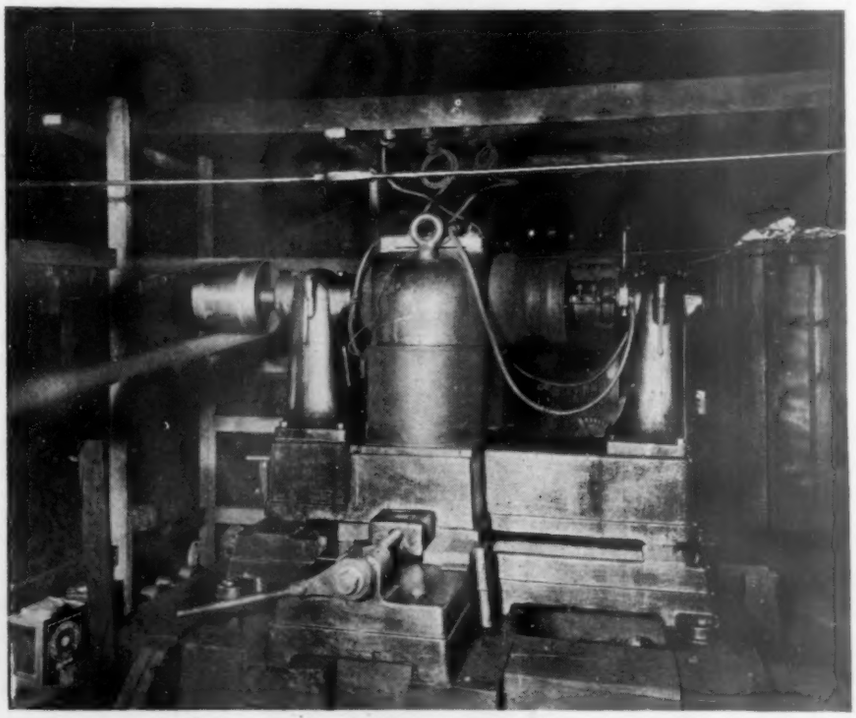
A page is devoted in the 16-page booklet to a listing of the products in which Pittsburgh seamless tubing is used.

Grove City, Pennsylvania.—Dr. E. J. Fithian, an organizer with the late John Carruthers of the Bessemer Gas Engine Company in 1898, recently acquired approximately 6000 shares of the company stock from Mrs. John Carruthers, her sons, J. G. and H. M. Carruthers, and H. D. Murray and members of the Murray family.

This great stock transaction results in practically all of the ownership of the company coming into the hands of Dr. Fithian and the retirement of J. G. and H. M. Carruthers and H. D. Murray from the company. J. G. Carruthers formerly served the company as vice-president, H. M. Carruthers as treasurer, and H. D. Murray as chief engineer. Operation of the plant will not be affected by the stock deal, it has been announced.

History of the Bessemer Gas Engine Company dates back 30 years when the two organizers started the manufacture of a patented clutch, and later branched out into the manufacture of gas, oil and Diesel engines. Growth of the concern is seen in its present employment of around 1600 employees when operating at capacity.

National Transit Pump & Machine Company, Oil City, Pennsylvania, has recently published a new 48 page catalog, Transit Gas Engine Compressor, describing its newest product in engines, the Transit "Model 26" a 17x34-inch twin gas engine. The catalog carries complete records of tests made of the new engine and illustrations of such tests in the form of indicator cards giving performance records in the tests. The working of the new engine is given in picture form along with description through the catalog.



Generator.

"H-E" FISHING TOOLS

HAVE A LONG RECORD of Successful Fishing Jobs to Their Credit

Patented

THE "H-E" JUMP-OFF SPEAR

The "H-E" Jump-Off Spear, shown above, will save you time, trouble, and money. The Jump-Off Spear can rotate with strain—has more pull and grip—releases at will—and has no adjustments to make. The photo on the left shows the position of the "spear" when released.

Many operators have found it pays to have them on the job ready for service. Write, wire or phone for a supply today. For sale or lease.

EDWARDS REVERSING TOOL

Above is shown the Edwards Reversing Tool, that has proven very effective in aiding thousands of operators throughout the oil fields. This tool is designed especially for all kinds of difficult fishing jobs. It can be released at will—will operate with strain on pipe—has wide range of adjustment—and makes left-handed pipe unnecessary. WE SERVICE THIS TOOL.

Specialists in fishing tools—concentrating on this important feature of oil well drilling, are able to furnish you with the right tool. Running the right tool first usually results in success the first time—at least this has been the experience of the many operators who have used "H-E" fishing tools. We can supply the right tool for every fishing job—Write, wire or phone.

EDWARDS "CUT AND PULL" CASING CUTTER

The Edwards, "Cut and Pull" casing cutter, enables you to rotate and wash down, cut and pull the cut-off casing at one trip, often making several cuts and pulls at one trip. Spear can be released and new cuts made above or below the original, often cleaning the well on one trip. Save time, labor, and losses by performing all these operations at one trip with the Edwards "Cut and Pull" Casing Cutter. WE SERVICE THIS TOOL.

All above tools patented or patents pending.

HOUSTON ENGINEERS

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P. O. BOX 276

Night Phone
Taylor 1996

Towne Service Building.

Elements of Geophysics

One of the most revolutionary developments in the petroleum industry, the application of geophysical methods in prospecting for oil and gas, is treated in a thorough, comprehensive manner by Dr. Richard Ambronn in his widely known work, "Elements of Geophysics," a book presenting a general explanation of Geophysical methods to meet the needs particularly of geologists, engineers, and business executives.

This work has been translated from the German by Dr. M. C. Cobb, and constitutes one of only a few works on the subject in the English language. Because of the small amount of information on geophysics published in English, and the difficulty in obtaining foreign articles, this translation should be particularly welcomed.

Following an introductory chapter discussing the development and present position of geophysical methods applied to prospecting, the author takes up and comprehensively discusses the various geophysical methods of prospecting; including the magnetic method, the use of radioactive and atmospheric-electric measurements, the electrical method, and the investigation of the structure of the subsoil by means of elastic (seismic) waves.

In his preface to the book, Dr. Ambronn points out the need for collaboration between the practical geologist and the geophysicist in the planning and execution of geophysical investigations. "The geologist and physicist are indispensable to one another in such work," he said. "The geologist and the engineer should be thoroughly conversant with the general bases of applied geophysics in order to collaborate with the practical geophysicist. One of the most important tasks of this book, therefore, is to afford him this in a form adapted to his special field."

As to the style of the work, the author says in his preface: "I have made my language as easily understandable as the difficulties of the subject allow. I have sometimes sacrificed comlete scientific expression to general clearness. In order to afford a full survey of the present status of the field for the practical geophysicist, and those who wish to do further work, however, I have added a bibliography of the most important literature at the end of the text." The bibliography itself comprises 77 pages of the book.

This translation of Dr. Ambronn's work was published by McGraw-Hill Book Company, 370 Seventh Avenue, New York. It is in the form of a neat, well bound volume of 372 pages, with attractive, substantial, cloth cover. Copies of the book may be obtained from the Gulf Publishing Company, 3301 Buffalo Drive, Houston, Texas. The price is $5.00 per copy.

"Centrifugal Pumps By Frederick" is the title of a new bulletin recently issued by Frederick Iron & Steel Company describing their full line of centrifugal pumps. Copy of the bulletin may be secured from the company at Frederick, Maryland.

Material Handling Equipment is Yale & Towne Manufacturing Company's new catalog No. 22-M recently off the press and being mailed upon request from Stamford, Connecticut. This 90-page catalog outlines in detail the 52 articles being featured by the company and is replete with illustrative tables and photographs.

The Billings & Spencer Company, Hartford, Connecticut, has recently made distribution on a new 122-page catalog listing its line of drop forged mechanics tools. This illustrated catalog features especially the company's wide variety of wrench sets. Each tool is listed in tabular form with size, weight and price.

Yale & Towne Manufacturing Company, Stamford, Connecticut, formally dedicated its new service building recently. Funds for the erection and care of this structure, which will be known as the Towne Service Building, were provided through a special bequest in the will of the late Chairman of the Board, Henry R. Towne; and this building represents his plans and purposes for the progression and advantage of the thousands of the company's workers, both now and in the future.

The structure is modern in construction and up to date in heating, lighting and ventilation facilities, and will admirably serve as a recreational center for employees of the company.

The handsome Georgian exterior is of colonial brick, trimmed with Indiana limestone, and the attractive lobby is of marble. The building consists of two stories and basement.

The main floor houses the Works Hosital, Dental Clinic and Industrial Relations Bureau. The second floor has an auditorium, gallery and stage, with a seating capacity of 400. A library is also located on this floor.

In the basement are four bowling allies with new and complete equipment, and with a gallery for spectators at tht end of the ball. Two new pool tables are also installed in one section of the basement.

The cost of its construction and the sum necessary for its maintenance approximates half a million dollars.

Los Angeles.—Pushing ahead in its policy of extending and expanding its productions of tools for the oil industry, Byron Jackson, Inc., which recently purchased and amalgamated five major manufacturers, has bought a 25 per cent. interest in the Patterson-Ballagh Corporation of Los Angeles, makers of anti-friction protectors for casings and drill pipes.

No change in the personnel of management of Patterson-Ballagh Corporation will result from the purchase, according to C. L. Patterson, president. Reciprocal licensing arrangements will allow Byron Jackson to incorporate the Patterson-Ballagh product to its tool joints and collars.

The five manufacturers purchased and amalgamated by Byron Jackson recently, are the former Wilson & Willard Manufacturing Company, the Wilson Oil Tools Corporation, The Rotary Disc Bit Company, all of Los Angeles, and the Craig Oil Tool Company and the U. S. Tool Company of Long Beach. The merger resulted in the formation of three divisions of Byron Jackson, the Oil Tool division, the Rotary Disc Bit division and the Pump division, the first two to be housed in Los Angeles at the former Wilson plant and at the enlarged factory of Byron Jackson, and the last to have headquarters in San Francisco.

Administrative and sales forces, service stations and distributing points are being established for Byron Jackson in Tulsa, New York, and other points in the Mid-Continent and Gulf coastal regions.

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This Guarantee is Your **PROTECTION**

we take all the Risk

Twice the Service of Your Best Ball and Seat or Money Back

The NO-CO-RO Drop & Seat is made by a company that has been serving the oil industry for twenty-three years. Presenting a revolutionary principle of valve check design, it has outlasted, out-served and out-performed any ball and seat that was ever made. It has operated three years in a well that previously required change every month. It performs week after week without rattle, clatter or flutter. Made of NO-CO-RO, it simply will not pit, chip or corrode. It is guaranteed on a money-back offer to give *twice* the service of your best ball and seat.

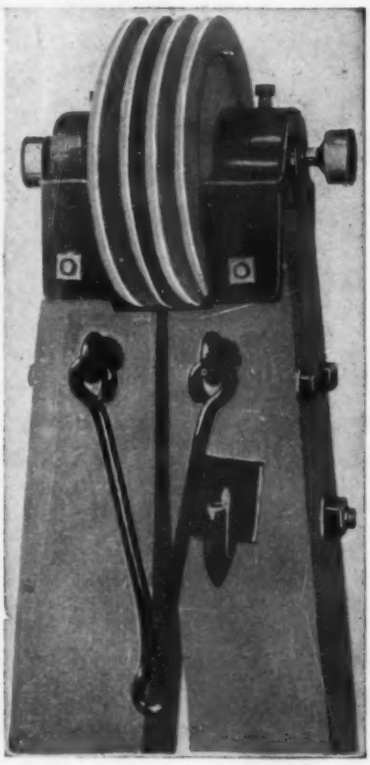
Is it reasonable not to look into a proposition like this?

Norris Brothers, Inc.

Robinson, Ill. Fort Worth, Texas
Owensboro, Ky.

SAFETY PULLING MACHINE COMPANY

Wishes to announce that the Safety and Eclipse special Pulling Machines (7x10x36 ft. A-Mast) size will be equipped with Double Crown Pulleys, fitted with 2-15/16 Phosfer Bronze Bushings.



The price to remain the same. Safety $375.00. Eclipse $350.00. F. O. B. Factory.

Either the complete Machine or the Stripped Derrick equipped as above.

For complete description write

SAFETY PULLING MACHINE COMPANY

INDEPENDENCE, KANSAS

P. O. BOX 525

SQUEAKS FROM THE BULL WHEEL

Wife (on auto tour)—"That man said there was a road house below here Shall we stop there?"

Hubby—"Did he whisper it or say it out loud?"

"My, dose pents look smart."

"Vy not? Dey're Oxford begs, Poppa."

"Boo-hoo, I've shot a burglar."

"Don't take on, lady; it's nothing to cry over."

"But I thought it was my husband."

"The Prince of Wales has survived many a little tumble on the turf."

"Yes," answered Miss Cayenne. "I am so glad he is a horseman instead of an aviator."

An old negro had just paid the last installment on a small farm when the realtor who sold it said: "Well, Uncle Joe, I will make you a deed to the farm now since it has been paid for."

"Boss," the old Negro replied, "if it am all de same to you I had much rather you would give me a mortgage to the place."

The realtor, somewhat surprised said: "Uncle Joe, you don't seem to know the difference between a mortgage and a deed."

"Well, maybe not," said Uncle Joe reminiscently, "but I owned a small farm once to which I had a deed and de bank had a mortgage, and de bank got de farm."

Salesman—This is our companionate piano.

Customer—Companionate?

Salesman — Sure. You try it two months, and if you don't like it, don't keep it—provided there are no children.—Kansas City Star.

Cleopatra: Why, oh, why, can't I die? Antony has left me; I have nothing left. Why can't I die?

The Asp: I'll bite.

And they both died.

Two men, waiting on the corner for the lights to change, got into a conversation.

"See that man over there? I owe my fortune to him," remarked one of them.

"Who is he?" remarked the other.

"He is a pie maker who supplies 95 per cent of the restaurants in town."

"Huh! And who are you?"

"I am the millionaire dyspepsia tablet manufacturer?"

Doughboy—Aw, what do you know about war?

Leatherneck—Nothing buddy. Not a thing. War's somethin' I don't know nothin' about. But I got two medals in an intervention, three machete cuts in a pacification, and six bullet wounds in a punitive expedition.

"It's easy to drive, easy to shift, easy to steer and easy to ride in," declared the motor car aslesman.

"Now, if you can guarantee me that the easy payments are easy to pay, I'll take it," said the customer.

Maybelle—"No, I don't think blue hose would go well with my new outfit."

Hosiery Clerk—"But they'd just match your knees this cold weather!"

The small child was talking to a kitten which she held tightly in her arms. A thoughtful pause caused her mother, who was sitting behind her, to pay some attention to what was coming next. "Kitten," said the infant, "I know all your little brothers and sisters, an' I know your mamma, but I ain't never seen your papa; I spec he must be a traveling man."

"Dauber may be a great artist," said the sweet young thing, "but he certainly has a peculiar way of painting his pictures."

"How is that?" asked her friend.

"When I visited his studio recently and asked him about his work, he told me painted his greatest pictures on an empty stomach."

St. Peter was interviewing the fair damsel at the pearly gate. "Did you, while on earth," he asked, "indulge in necking, petting, smoking, drinking or dancing?"

"Never," she retorted, emphatically.

"Then why haven't you reported here sooner?" said Pete. "You've been dead a long time."

Wife (as swell looking flapper alights from street car): "Look here," addressing her husband, "the way you look at that girl's limbs, one would think that you never saw legs before."

"That's what I'm beginning to think myself," replied the husband.

"They tell me, Giles," said the minister, reproachfully, to one of his parishoners, a shepherd, "that you now attend Mr. Jones' church. I don't think you would be pleased if any of your sheep were to feed in some one else's field."

"I don't think I would mind if the grass were better," replied Giles.

Irish Priest (addressing damaged invalid)—I'm going to pray that you may forgive Casey for having thrown that brick at you.

O'Leary—Mebbe yer Riv'rence 'ud be saving toime if ye'd just wait till Oi get well, and then pray for Casey.

"Why are some women called Amazons?"

"Because they're so wide at the mouth."

ASCO STEEL
STANDS SUPREME

Every step in the production of Asco Steel is watched closely. From the selection of the raw materials to the finished product, the first thought always is to produce a steel that will give the best results to the makers of Oil Well Tools. Can we help you to produce better tools?

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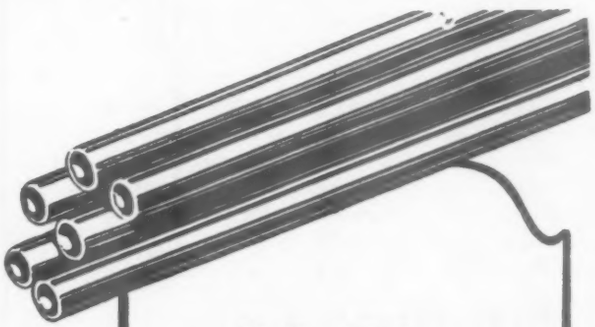
tests better than A. P. I. specifications



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Charcoal Iron
for bad water conditions—
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Oklahoma Stock—Harrisburg Supply Co., Tulsa, Oklahoma.

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Serving the Atlantic Oil Producing Co.—

Right in the Field!

THIS Butler *Ready-Made* Steel Building is used as a garage on the Hendricks "B" Lease, Winkler County, Texas.

Not only as garages are Butler *Ready-Made* Steel Buildings used in the field, but also as boiler houses, compressor houses, warehouses, belt houses, bunk houses, oil lift plants, etc.

Butler all-steel structures, which are non-combustible, are widely used right in the field —from Wyoming to New Mexico. They are used not only by the Big Lake Oil Company, but also by the Continental Oil Company, the Signal Oil Company, Standard Oil Company of Indiana and many others. They are adaptable and convenient for oil field use anywhere.

The steel used in Butler Buildings is 24 gage galvanized. The steel has deeply paneled corrugations which are wider and deeper than mill rolled corrugations. They add stiffness and strength. The sheets are bolted together and to a steel frame with galvanized bolts.

Butler Buildings may be dismantled, moved to any desirable location and re-erected with practically 100% salvage.

Prices are quoted f. o. b. plant or erected. You can quickly find out how these buildings are being extensively used in the oil field and elsewhere by writing us for the complete Building Catalog.

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These reliable dealers handle *Butler Ready-Made* Steel Buildings:

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M. A. Trimmer at Blackwell, Oklahoma, and Oxford, Kansas.

Keyes-Butler Tank Co., at Casper and Cody, Wyoming.

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